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ORIGINAL ARTICLES.

THE EDUCATION OF THE SENSE OF SMELL.

BY A. L. BENEDICT, M.D.,
OF BUFFALO, N. Y.;
PROFESSOR OF PHYSIOLOGY AND DIGESTIVE DISEASES IN THE DENTAL DEPARTMENT OF THE UNIVERSITY OF BUFFALO.

MY attention was first called to this subject during a lecture on the special senses. Alluding to the power of distinguishing individuals by the sense of smell, and asking how many of the class possessed this power, I was surprised to find that not one out of fifty or sixty replied in the affirmative, nor has my experience with subsequent classes been different. The rarity with which human beings make any effort to cultivate this faculty, and the difficulty of securing data, will be an excuse for drawing largely on personal experiences. In order that such experiences may appear fairly as individual observations, not as general traits, this article will necessarily assume, in places, an appearance of egoism.

As pointed out in conversation by Professor Woods Hutchinson, the present method of training children is such as to repress the intellectual use of the sense of smell. To smell of food subjects the child to dismissal from the table; to ask, "What smells?" is considered vulgar; to say, "Who smells?" is treated as an indecency. In fact, in our endeavor to be "nice," we even confuse the verb *smell* with the always intransitive verbs, *reek* and *stink*, as is well illustrated by an anecdote of the lexicographer Johnson. A lady, in remonstrating with him for his well-known carelessness in matters of the toilet, said, "Positively, doctor, you smell." "You are wrong, madame," replied the doctor, "you smell, but I stink." In view of the prejudices alluded to, I must ask my readers to follow the subject in a scientific spirit and especially to guard against the tendency to associate animal odors with the ideas of uncleanliness or indecency.

Man has been so much in the habit of regarding himself as the culmination of the animal kingdom that it is well for him to receive some humiliation in studying comparative anatomy and physiology. While he certainly has the largest and best developed central nervous system, his digestive apparatus is far inferior to that of the herbivora, and his special sense organs are surpassed in one or more particulars by almost every one of the higher mammals. The bulb of the olfactory nerve is almost a cerebral lobe in some animals. We are in the habit of classifying sight and hearing as intellectual senses and applying some contrasting term to the other seven (touch, pressure, muscular, temperature, equilibrium, taste, smell). The most superficial study of language, which is a convenient gage of mental development, shows that the vocabulary connected with the sense of smell is more limited than that for any other sense, and that for smell alone we are entirely lacking in general descriptive terms, though tastes, also, must be spoken of by comparison with known perceptions. With dogs, and some other animals, such a low ranking of the sense of smell is very far from being the case. Just as we feel only half acquainted with an object which we have touched but have not seen, so a dog is evidently not fully satisfied with sensations arising from the eye and the ear; he must supplement them with those of smell before he has fully framed his concept. Not only does he recognize human beings by the sense of smell, but all the social amenities of dog life, all his hunting instincts, all his conscientious guardianship of domestic animals, and much of his mischievous sport, are connected with smell. Probably few persons have failed to notice that urination with dogs is more than a physiologic act. In cities, especially, smelling and urination occupy a great deal of the dog's attention and there is certainly as much intelligence called into play as in the hide-and-seek games of children. Indeed, after setting aside the first sentiment of disgust, one can recognize a very elaborate etiquette in the use by the dog of his olfactory sense. Not to pursue this branch of the subject further, let us study the sense of smell in the human being with the admission that we have persistently neglected this sense for generations until we have become, in this regard, idiots by deprivation. Let us also endeavor to educate the remains of this sense as we would the imperfect power of hearing, sight, or touch in a defective patient.

The odor of the healthy, clean human being arises from the perspiration and the sebaceous secretion. Neither of these contains as an important chemic ingredient a volatile substance, and whether the volatile excreta from the skin are more properly considered as perspiratory or sebaceous in origin, I shall not pretend to say. There are minor differences in the physiologic chemistry of different individuals which are manifested by varied appetites, varied

power of growth, varied power of assimilation, conspicuously of fats but quite as genuinely of other foods, and, not to mention other idiosyncrasies, by peculiarities of the effluvia of the skin. Some human beings who have the power of distinguishing individuals by odor have described the odor as usually agreeable and, often, in the case of persons of the opposite sex, as an excitant of passion. This is certainly true of dogs. Personally, the odor of a human being is neither agreeable nor disagreeable to me, and is entirely free from sexual or other sentimental suggestion. It is simply a discrimination, unqualified by any associated idea. Of course, this statement refers to clean persons—those whom most others would consider practically odorless—and I may say that the cultivation of the sense of smell has not—as use or study is said to do in general—diminished in the least the esthetic ideas usually connected with odors. In fact, I am almost painfully affected by many food-odors, such as onion, cabbage, turnip, etc., and by certain perfumes, such as musk, the scent of hyacinths, easter-lilies, tube-roses, etc. None of these aversions of smell, however, are insuperable or sufficient to interfere with the gratification of hunger or the discharge of any duty.

The unclean human body affords odors which may be of diagnostic importance, or, at least, may aid in that detective work which every physician has to perform in estimating social standing, habits, and other circumstances in connection with the practical care of the sick. The following odors may be detected, singly or combined: (1) Neglected skin secretion, sebaceous or perspiratory. (2) The special odor of the axillæ. (3) The special odor of the smegma. (4) The special odor of the perineum. 1, 2, 3, and 4 refer to general or modified secretions from sebaceous glands, with the accidental admixture of truly sudoriferous odors. (5) Urine. (6) Feces. (7) The special odor of the scalp, which, perhaps, should be included with the first four. (8) Breath. (9) Menstrual blood or other secretion. (10) The odor of the feet, which is not a sebaceous odor but due to the decomposition of macerated epithelium. (11) Extrinsic odors permeating clothing, hair, etc. (12) Certain vegetable or drug-odors which escape through many routes, but especially through the skin. (13) Perfumes, as in soaps and other cosmetics.

The terms clean and unclean are relative and by no means dependent on refinement, social position, etc. It is absolutely impossible for any one to keep immaculately—or rather inodorously—clean and have time for anything else. Owing to personal differences in chemistry, some may remain free from noticeable odor while careless as to bathing, and, on the other hand, the greatest pains in bathing and changing underwear may not be sufficient to offset a tendency to bromhydrosis. I once attended an old woman who had chronic Bright's disease in the mild, interstitial form. The recommendation of hot bathing to stimulate the skin elicited the fact that the patient had not had a bath for about forty years, yet she was not marked by a disagreeable odor. Persons illustrating the opposite extreme deserve our sympathy and forbearance, rather than the ridicule which is so freely bestowed. Women require more frequent attention to the toilet than do men, even when not menstruating, and when such factors as constipation and lack of exercise do not exist. While perspiration causes a noticeable odor, persons engaged in active exercise who sweat much and bathe sufficiently are much less odorous than those who take little exercise and, hence, retain products of imperfect metabolism in the system. Very fat persons and those with acne, comedones, and wens, are liable to the development of valerianic acid and more or less closely allied bodies. It is largely this substance that gives the peculiar sour odor to accumulations in the umbilicus, beneath the breasts, or other folds of the skin. It is sometimes possible to squeeze from a small wen a thread of sebaceous material may feet or even yards long, having a marked odor of valerianic acid. While fat women are very apt to be disagreeably odorous, the axillary odor is usually marked in lean brunettes. Just why the axillary odor should be so much more marked in women than in men is difficult to explain, unless on account of the warmth of the corset and the wearing of tighter garments. Many women are nuisances simply because they neglect to use sleeve-protectors or to keep clean those that they do use. Often the absence of a bath-tub or the necessity of dressing in a cold room is a crucial factor.

The odor of smegma, urine, feces, and feet usually indicates a rank infringement of the laws of decency. The first may indicate a stimulation of sexual passion and may, therefore, be of value in recognizing cases of hysteria. Quite recently this was the case in regard to a patient whom I was summoned in haste to see some time after having treated her for subacid dyspepsia. The young man in the case was admonished as to his future conduct. It is questionable whether the sexual excitement was merely the cause of the hysteric seizure, or of the dyspepsia, also. In the *Journal of the American Medical Association* of February 19, 1898, Dr. Charles Provost Grayson calls attention to the sexual factor in the production of nasal hyperemia and inflammation, and alludes to the existence of other reflex manifestations of the same emotional cause. Physicians must realize the

importance of this subject and consider it without false modesty. The smell of urine may indicate stillicidium in women, prostatic disease in men, enuresis in children, and various other causes of impairment of the sphincter and urethral muscles. It is easy to distinguish the odor of decomposed normal urine from the reek of that which has undergone alkaline putrefaction in the bladder, along with the decomposition of mucin (or nucleo-albumin?). As is well-known, the urine may be odorous from the ingestion of asparagus, turpentine, and various other foods and drugs. A fecal odor may indicate the presence of a fistula or some interference with the tone of the sphincters. By the odor we may distinguish between fat decomposition, with the production of fatty acids, the putrefaction of proteids, including blood, and the sourness of carbohydrate fermentation. After the evacuation of fecal contents by a diarrhea, a characteristic saline (?) and not especially disagreeable odor may indicate the loss of serum or of mucus. Sometimes, even the odor of orange, lemon, etc., may be distinguished, as well as that of certain drugs. In one case about which I was consulted, the appearance of the little sacs in which the pulp of orange is contained had occasioned considerable alarm and, while the low power of the microscope was the crucial test, the mere odor of the fecal fluid was significant. Foods like beans and eggs, which are rich in sulphur, usually produce H_2S and CS_2. The latter gas seems to be more slowly volatile than most other odorous intestinal gases; at any rate it is more persistent and gives the idea of staleness in regard to a discharge either of feces or of flatus.

The odors of the feet and of the scalp have no special diagnostic value in my experience, although they should have to a dermatologist. In justice to patients, it must be remembered that blacking, paste, and badly tanned leather may be responsible for an offensive odor; also, that excessive sweating of the feet is a disease, not a filthy habit. The odor of the breath may be due to nasal, pharyngeal, or even frontal or other sinus disease, to ulceration of the gums, cheeks, etc.; to decomposition in and about the teeth; to decomposition in tonsillar crypts; to laryngeal, pulmonary, or gastric disease. The fetid odor of ozena is classic, but in mild affections there may be retention and decomposition of mucus, epithelium, and débris. From hospital experience I can say that phthisical patients are apt to develop a peculiar sour odor of the breath, especially after cavities have formed. The odor of mercurial stomatitis has been described as characteristic, but, personally, I have not been able to distinguish it from that of noma or of any other extensive ulceration or necrosis of comparable extent and degree. Foul breath may be due to the lodgment of food between sound teeth, and cleaning of the teeth should not be considered thorough unless the brush is preceded by the use of floss or, better yet, of loosely twisted shoe-thread.

The back of the tongue is a fertile breeding place for bacteria and molds, and is often in league with similar but perhaps less marked processes in decayed teeth, tonsillar crypts, etc. The wonderful "sympathy" between gastric conditions and those of the tongue, which aroused so much attention ten years ago and more, is similarly explained. Sour eructations do not usually produce more than a temporary odor of the breath, but, in any marked stomach trouble in which bacterial action is unrestrained, the same process is apt to take place in the trough of the tongue. Hepatic and intestinal lesions produce bad breath, apparently from the absorption of toxic substances, not odorous in themselves but capable of reducing the resisting power of the mouth to bacterial action. Gangrene of the lungs has a quite characteristic odor. In diabetes, not only the breath but all secretions may be perfumed with what was formerly supposed to be acetone. The worst breath is due to the filthy practice of stuffing dental cavities with cotton. A woman addicted to this practice is mentioned by her acquaintances as "The pestilence that walketh by noonday." Alcoholic beverages are well known to impart a characteristic odor to the breath, and thus to give a warning to the diagnostician. But we must not confuse the odor of bay rum used as a cosmetic nor forget that the man with whisky on his breath may have an apoplexy or that he may have taken a single drink, innocently, because of the commencement of symptoms that have subsequently overcome him. The odor of chronic alcoholism is quite different from that of recent imbibing.

The odor of menstruation is occasionally diagnostic but it is mentioned here rather for the sake of emphasizing that it may be utterly unpreventable, persisting in spite of the most careful toilet possible. Whether curettement would be indicated for this symptom, is a question for the gynecologist. The odor of the clothing often throws light on the habits, occupation, and social status of a patient. Some teacher has written eloquently of the "Smell of dirty little boys on a wet day." Men who work about horses have a characteristic, and, to many persons, not disagreeable odor. Occupation about other animals is often detectable by the odor. The combined bovine and lactic-acid odor of the milkman is conspicuous. Good and bad leather and many other commodities are odorous. I must confess that I

cannot always distinguish a lady from a "loidy" by the dress and must often rely on the odor of perfume. The quality of tobacco, its use for smoking or chewing, the amount used, are quite distinguishable by the smell, and are of considerable indirect value. The clothing of even the cleanly poor, who have not the privilege of bath-tubs and who must hang their garments where they are penetrated by the fumes of cooking, often assumes a vile odor. New garments, recently moistened and pressed, are often quite offensive. Persons who eat garlic, onions, etc., must expect to have strong-smelling secretions, which no amount of external cleanliness will offset.

Juvenal, centuries ago, addressed an epigram to a perfumed fop as follows: "You smell well, therefore, I think you smell ill." The character of perfume is a very fair index of social status. Musk we naturally associate with bleached hair and a stained character. Musk plus iodoform, in the absence of a visible lesion, is a not uncommon combination and suggests not only bad morals but venereal infection. Bergamot and other abominations of the barber-shop often stamp that class of men for whom we have no more reputable term than "mucker."

In very few instances is there a characteristic odor directly diagnostic of disease. The mousy smell of favus and the odor of variola are classic. Some physicians speak of a characteristic odor of typhoid. This is a mistake; the odor is due partly to sour milk from the diet and partly to the intestinal intoxication and may be encountered in any low fever. The so-called acetone odor of diabetes has already been alluded to. Some idea of the amount of waste carried off by the kidneys may be obtained by the pungent odor given off when the urine is boiled. Such volatile excreta are certainly highly toxic but their exact nature is not understood. Urine loaded with indican and other products of intestinal putrefaction is apt to develop a foul odor quite distinct from that of normal but condensed urine. The interval between the ingestion of asparagus and the appearance of the odor of methyl mercaptan in the urine may be used as a rough test of absorption. Normally, the odor should be marked in four hours and should continue for about eight hours longer.

In examining the gastric contents we make practical use of the nose to distinguish acetic and butyric acids, and we may also distinguish the mixed sourness of carbohydrate fermentation—which must not be confused with that of fruit ingested—the putrefaction of albumin in serious ischochymia, and the carrion-like smell of cancer. Personally, I would place as much stress on the last as on any other single sign of carcinoma except tumor. The presence of H_2S in the stomach contents or eructated gas is almost positive evidence of regurgitation of the bacillus coli communis from the large, and the lower part of the small, intestine, unless foods rich in sulphur have been eaten.

A short time ago I was called in consultation to see an infant who had had an obstinate diarrhea for some days, not relieved by treatment. Physical examination revealed practically nothing, but, during it a quantity of foul intestinal gas was discharged on which I felt warranted in basing the diagnosis of proteid decomposition which usually follows marked failure of the secretion of hydrochloric acid. Treatment accordingly, with hydrochloric acid and eudoxin, a bismuth salt containing iodin, relieved the the trouble in thirty-six hours. In a few cases of gall-stones and of hepatic sclerosis I have detected peculiar odors not encountered elsewhere, and which I believe to have some diagnostic value. Of course, they are quite indescribable.

Problems of toxicology are often solved by the sense of smell. The general anesthetics, hydrocyanic acid, alcohol, carbolic acid, some opiates, cannabis indica, camphor, and illuminating-gas may be mentioned. There is now awaiting execution a man convicted of murder mainly on the testimony of a physician who gave a death-certificate as due to natural causes, whose suspicions were later aroused and who then made a positive diagnosis of hydrocyanic-acid poisoning, from the odor of the brain several days after death and after embalming was claimed to have been done. As the brain has normally a peculiar odor, which may described perhaps as spicy, and as the physician did not have frequent opportunity to make autopsies, one may be pardoned for questioning whether the odor of hydrocyanic acid was really present. The presence or absence of formol in embalming fluids is often important in diagnosing between the peculiar hard state of bowel thus embalmed while in rigor mortis and pathologic conditions.

In sanitary practice one of the best tests for leaks in sewer or other pipes is that by volatile and odorous substances, such as peppermint. Or, we may substitute the oil of catnip and use the more acute olfactories of a cat. Similarly, I have used the peppermint test in diagnosing against intestinal occlusion.

This paper is intended to call attention to the possibilities of using the nose as a practical aid to the physician, not as a complete treatise on the subject. Many interesting observations on this topic may be found in Gould and Pyles' "Anomalies and Curiosities of Medicine." Criticisms and reports of the observations of others will be most gladly received.

AMPUTATION AT THE SHOULDER-JOINT; A SERIES OF EIGHT CASES WITHOUT A DEATH.

BY MANNING SIMONS, M.D.,
OF CHARLESTON, S. C.

AMPUTATION performed by modern methods has given greatly improved results so far as the mortality of these operations is concerned. A review of the statistics is especially interesting as showing the improvement to be noted in relation to amputations performed at the shoulder-joint. Much of the improvement in mortality-results may be attributed to what is now familiarly known as "aseptic surgery." Indeed, the success of amputations for injury depends more upon the first treatment of the wound than upon the skill of the operating surgeon. For the same reason the great mortality formerly attendant upon compound fractures has diminished in proportion as this fact is understood and appreciated by the rank and file of physicians under whose observation and attendance these cases come before they reach the surgeon. Again, the modern bloodless methods with which the names of Esmarch and Wyeth are inseparably connected have done much to reduce the mortality associated with amputations.

A writer, in a system of surgery published not more than ten years ago, says: "Amputation at the shoulder-joint is in appearance a most formidable operation, yet its results are upon the whole successful." The mortality-table presented by this authority gives a death-rate per cent. in this operation varying from 33.3 to 76.9. He compares these figures with those of amputations in different parts of the body, and remarks that it is seen that the death-rate of shoulder-joint amputations, which is less than two in five, is not much greater than that of amputation of the leg, and very much less than that of amputation of the thigh.

Since this operation was actually put into practice in the early part of the last century it has been performed in a variety of ways. Sedillot enumerates at least twenty, Velpeau thirty, and Lisfranc thirty-six. This variety of methods indicates that the operation, in the light of modern surgery comparatively simple of execution, taxed the ingenuity of surgeons in its perfection and development. Most modern authorities seem to have eliminated all of these methods except three, each with one or more modifications. The following seem to have maintained their hold upon the favor of surgeons: The oval or racquet method of Larrey; the external flap method by transfixion known by the name of Dupuytren; and the anteroposterior flap method of Lisfranc. Until Wyeth brought to notice and to practical application his bloodless method, the only safeguards against hemorrhage were compression of the subclavian artery upon the first rib, either by a finger, or by means of an object such as a wrapped key. The real mainstay, however, was the skilful assistant who followed the knife of the surgeon as he severed the brachial artery with the final sweep. Even under the most favorable circumstances a large amount of blood was lost in the severed limb. With Esmarch's bandage, and with Wyeth's method properly carried out in faithful detail, the loss of blood beyond oozing from divided capillaries in the extensive wound surface and from small muscular branches after removal of the rubber tubing is trifling in amount.

In applying this method experience derived from these cases induces me to call especial attention to one precaution. "It is essential that both pins emerge one inch internal to the top of the acromion; otherwise, when the humerus is disarticulated, the tubing tends to slip down, thus drawing the flaps together when the vessels may retreat, severe hemorrhage then occurring, necessitating ligature of the subclavian artery or removal of the tube to secure the vessels in the wound, the latter only being possible of execution after severe loss of blood." The chief vessels, *viz.*, the brachial, subscapular, and posterior circumflex, should be secured before the tubing is removed, and usually they are easily seen and taken up.

The case reported first in this paper was an object lesson to me in ligatures, exemplified by the occurrence of secondary hemorrhage from the brachial artery on the fifth day. Doubtless the most fruitful cause of this form of hemorrhage is septic inflammation which prevents the process of healing in the vessels or destroys that which may have occurred. In this case too early softening of the non-chromicized catgut ligature was the cause of the hemorrhage. The wound, which had healed along the line of incision, was with some difficulty opened up and the bleeding vessel found freed from the ligatures by absorption and softening of the latter. According to my usual custom, chromicized catgut is used to ligate vessels in amputation, but on this occasion there was none at hand and non-chromicized gut was used, with the result mentioned.

In one of these cases the amputation was done by Larrey's or the oval method, the others by intero-external flaps by dissection from without inward. The operation is not difficult of performance, but the chief trouble experienced is in the division of the muscles surrounding the joint, subscapular, supra- and infraspinatus and long head of the biceps. In Larrey's operation these muscles are reached through a vertical incision and such space as may

be obtained by the separation of the tissues on each side from the bone. At best the cutting of the insertions of the muscles must be done by touch rather than by sight. Dupuytren's operation by transfixion, after raising of the flap, gives a good view of the muscular attachments to be severed, but it has the disadvantage that there is difficulty in carrying the knife sufficiently far around the prominence of the head of the humerus to get a wide-based, well-rounded external flap, which necessarily contains all of the deltoid. The method by dissection from without inward, I believe, obviates these difficulties and objections and greatly simplifies the operation.

This operation seems to have attracted but little attention and is either not mentioned at all or is simply alluded to in recent text-books and systems of surgery. In the "International Encyclopedia of Surgery" it is dismissed as follows in the description of Dupuytren's operation by transfixion: "A modification, and I think an improvement of this method originally practised by Cline, and first described in this country by Dr. J. A. Smith of New York in a letter to Dorsey, consists in cutting a deltoid flap of curved outline from without inward, then disarticulating and finally completing the operation in the way already described." In the "System of Surgery" by Dennis, under the head of the modified oval operation, is described a method in which an external flap is made by cutting from without inward, but it lacks in simplicity as compared with the operation performed in several of the cases here reported.

The operation I have found simple and of rapid execution is described by Druitt as a method that "may be employed." In operating by dissection the surgeon may stand facing the patient and take hold of the arm, leaving the external flap to be raised by an assistant, or he may stand outside either limb and take hold of the flap himself. The latter plan, I think, is the more convenient, and in all my operations by this method I have managed the flap myself and entrusted the arm to an assistant. The arm being carried inward and forward by an assistant, the surgeon commences his incision just outside of the coracoid process, carries it down to the insertion of the deltoid, and then making a well-rounded turn ascends to a point above the angle of the posterior axillary fold just below the spine of the scapula near its root. The skin is everted below and the flap, consisting at first only of skin and subcutaneous tissue, is dissected up, but taking more and more of the deltoid until at its base it includes the whole thickness of that muscle. When this flap is raised the capsule of the joint is fully exposed and the muscles to be divided are easily in reach, and plainly to be seen. The arm being now strongly adducted, the capsule is opened by a strong cut upon the head of the bone, the knife is passed between the scapula and humerus and down along the inner side of the latter for a sufficient distance, then directly inward. If the pins and tubing have been properly placed, the assistant need not compress the artery as formerly advised.

The wound is swabbed with chlorid of zinc. A drainage-tube having been introduced the wound is closed with silkworm gut, the line of apposition of the flaps extending from above downward and outward. The wound dressings are, first, sterilized gauze next to the wound, then iodoform gauze, then bichlorid gauze, cotton, and a snug bandage. The drainage-tube is removed in forty-eight hours. In my series of cases healing occurred without suppuration, except in one instance in which the operation was performed for a sloughing sarcoma of large size in the neighborhood of the elbow-joint. According to the notes of this case, the suppuration occurred at one point and ceased at the end of four days.

CASE I.—T. N., a Syrian, was admitted to the City Hospital, December 18, 1895, suffering from a burn which had charred his arm nearly to the shoulder-joint. Amputation performed at shoulder-joint. Secondary hemorrhage on 5th day. Discharged cured January 11, 1896.

CASE II.—S. G., black, male, aged twenty-nine years, was admitted to the City Hospital, December 28, 1896, suffering from a gunshot wound of the right arm. The weapon used was a double-barreled shotgun loaded with No. 4 shot. Next day the arm was taken off at the shoulder-joint. The outer flap was perforated by twelve of the shot. The patient made an uneventful recovery. Discharged February 5, 1897.

CASE III.—John S., black, male, aged fourteen years, was admitted to the City Hospital, December 30, 1896, suffering from a crushed arm, caused by a railroad accident. The arm was amputated the same day. Patient made an uneventful recovery and was discharged February 1, 1897.

CASE IV.—Joe W., black, male, aged sixteen years, was admitted to the City Hospital, October 3, 1896, suffering from a compound fracture of the humerus. Amputation at shoulder-joint. The patient made an uneventful recovery and was discharged October 22, 1896.

CASE V.—Jacob B., black, male, aged fifty years, was admitted to the City Hospital, January 18, 1897, suffering from a malignant tumor of the right arm just below the elbow. It was gangrenous. Amputated January 19, 1897, at the shoulder-joint. Wound suppurated for four days. Patient made a good recovery and was discharged cured March 1, 1897.

CASE VI.—Ishmael G., black, male, aged four-

teen years, was admitted to the City Hospital, March 16, 1897, suffering from a gunshot wound of the right arm. The weapon was an old musket, loaded with No. 5 shot. The arm was nearly cut from the body. It was amputated the same day at the shoulder-joint. Patient made an uneventful recovery and was discharged April 7, 1897.

CASE VII.—William J., black, male, aged twenty years, was admitted to the City Hospital suffering from a compound fracture of the right arm. Amputation was performed at the shoulder-joint. Patient made an uneventful recovery.

CASE VIII.—Jennings H., colored, male, aged twenty-eight years, a large, well-muscled phosphate hand, entered St. Francis Xavier's Infirmary, January 20, 1897, at 9 P.M. During the afternoon, while riding on a car, he slipped and fell in such a manner that the wheel of a loaded freight car passed over the arm below the shoulder-joint. The arm was almost completely severed and the bone crushed so as to render maniputation impossible except with the aid of the lion forceps. Hemorrhage had been profuse but was checked by some of the bystanders who tied a piece of twine tightly around the arm. Amputation was performed at the shoulder-joint about 10 P.M. of the same day. Subsequent to the operation his temperature never rose after the second day, and on the third day the tube was taken out. The wound healed by first intention. Every second stitch was taken out on the ninth day and the remaining ones on the fourteenth day. He was discharged cured on the twenty-first day.

CHRONIC ARTICULAR RHEUMATISM AND LUMBAGO TREATED BY COLD OVER THE SPINE.

BY BEVERLEY OLIVER KINNEAR, M.D.,
OF NEW YORK.

IN chronic articular rheumatism the regulation of the circulation of the blood throughout the body by means of cold applied over the spinal nerve-centers will, without the aid of internal medication, restore the patient to health or ameliorate his condition.

The reason that cold over the spine will accomplish this result is because when properly and intelligently applied it will always dilate the arterioles and capillaries throughout the whole organism and increase the external heat of the body very perceptibly. This signifies more rapid metabolic changes, increased general nutrition, and restoration to normal function in the tissues. That cold over the spine restores diseased tissues to health is practically proved by the results of the applications; the patients steadily gain in strength, in appetite, and in digestion, and soon begin to manifest an increased energy of mind and body. The ice-bags which are to be used should never be wider than four and a half inches for the adult, otherwise the body will be chilled. The length of the bag depends on the age and size of the patient.

The fact now generally recognized that metabolic changes or processes are largely under the control of the nervous system, throws a new light upon rheumatism, as it does also upon all inflammatory disorders. That the cerebrospinal nerves when excited, after severance by electricity applied to the terminal section of the nerve, will give rise to heat and swelling in muscular and connective tissue was proven by Brown-Séquard when he stimulated the cut end of the chorda tympani nerve, and noted that not only did the submaxillary gland discharge very freely, but that the tongue became hot, red, and swollen, indicating thereby that stimulus of the cerebrospinal nerve caused active hyperemia with effusion in this muscle and its connective tissue and mucous membrane. It is also quite widely believed to-day that every motor nerve carries with it a trophic or vasodilator fiber, and if this be true of the nerve-supply of all the tissues in the body, it is very easy to realize that excitement of cerebrospinal central cells, will, if sufficiently strong, give rise to inflammations in the distal areas controlled by the centers.

This view is enforced from the clinical standpoint by the application of cold over the spine in many forms of chronic inflammation. By the intelligent use of such applications it is possible rapidly to subdue inflammatory forms of skin disease, chronic forms of inflammation in the mucous membranes, such as chronic bronchitis or chronic diarrhea, and also "irritable ulcer" as well as old and sluggish ulcerations. I speak from personal experience, and after some eight thousand applications of cold over the spine personally made, with observation of the results. In all these forms of inflammation, as well as in chronic articular rheumatism, the spinal ice-bag is exceedingly grateful to the feelings of the patient, giving him a delightful sense of refreshment and rest. After a few weeks, or even a few days, he perceives a renewal of strength, particularly if he was originally strong and vigorous, which is surprising to him. In patients of naturally feeble constitution the results are longer in appearing.

The question which next arises is, what agent, force, or substance will so increase the function of the central nerve-cells as to give rise to inflammation at their peripheral terminals? The only reasonable reply is, that within the body the blood carries to all organs and tissues their proper nourishment, and that when in secreting organs, such as glands, there is an excess of blood, something beyond the normal supply, there will be excessive secretion from them; in other words, their functional action is increased. Muscular exercise, causing an increased flow of blood to the muscular system, will so add to its functional power that it soon can double its usual work. This

is well illustrated in the training of athletes, and I consider it a very reasonable hypothesis that excess of blood circulating in certain central cells of the cerebrospinal nervous system may so over-develop their functional power as to give rise to inflammations in the locations innervated and controlled by the hyperemic nerve-centers. It is entirely upon this hypothesis, that I have now for years successfully dispersed congestions, checked hemorrhages, and subdued inflammations, both acute and chronic.

Let us consider the morbid anatomy of acute articular rheumatism. "The synovial membrane is usually injected; the capillaries are dilated, and the reddening is best marked where the membrane joins the cartilage. The cells of the synovial fringes multiply; the epithelial cells are enlarged and often surrounded by fat. The lymphatics of the synovial adventitia are enlarged, the cartilage cells proliferate and the fundamental substance segments." (Loomis.) Here is practically an inflammation, with the usual heat, pain, and swelling. In chronic articular rheumatism the same changes occur, only with subacute symptoms.

All of these changes in the chronic form of rheumatism can at once be checked by applying cold over the spinal region, and not only checked, but a reverse process substituted, and absorption of the inflammatory products induced. I completely cured one of the worst cases of chronic articular rheumatism that I have ever seen by the application of the spinal ice bag alone, without the aid of drugs, after almost every other known remedy had been tried. Nearly every joint in the patient's body was affected, and had been so for eighteen months previous to my treatment. The pain was constant, night and day, and he had become much emaciated. He was able to crawl at a snail's pace by the aid of two canes, and after he had seated himself, it required at least a minute and a half for him to regain the erect position. His appetite had begun to fail, and he was rapidly going down hill. A twenty-two-inch spinal ice-bag was applied from the fourth cervical to the third lumbar vertebra, for one hour twice a day, with immediate relief to the pain while the bag remained on. In ten days pain had ceased in all his joints, and he could rise from the sitting position at once, easily and comfortably. His progress toward recovery was steady and rapid, and he regained in a few months about forty pounds in weight. In six-months' time the cure was complete, and from that day to the present (some twelve years) he has had no relapse to my knowledge.

The cold over the spine induces these great and vital changes by expelling from the hyperemic trophic vasodilator nerve-centers that supply the joints the excess of blood, which, by increasing the function of the centers, caused the inflammation in the joints. This excess being expelled, the inflammatory process at the nerve terminals must cease.

Further, by the power of the spinal ice-bag to dilate the whole arterial system, the general circulation and consequently the general nutrition is improved, the abnormal supply of blood within the joints is withdrawn from them and distributed to every tissue and organ in the body, filling with new life and vigor anemic muscles, and stimulating healthy secretion and excretion from the viscera. This augmentation of all metabolic processes creates a call for more oxygen, and in all cachectic conditions the respiration is invariably deepened by the use of the spinal ice-bag. I could cite cases of a number of patients treated successfully, but I desire rather to set before the profession the view of rheumatism as an inflammatory affection due to a hyperemia of a certain class of nerve-centers, in order that others may test the action of the ice-bag in the chronic form of articular rheumatism.

I do not advise the use of the spinal ice-bag in acute articular rheumatism, on account of the great shock to the system in the sudden checking of such widespread disorder, but after the disease has run its course, the condition of the patient may be improved much more rapidly and the strength more speedily regained by the use of cold over the spinal nerve-centers, than is possible without such treatment.

In lumbago, that very painful form of muscular rheumatism, the dorsolumbar spinal ice-bag (ten inches long, four and a quarter inches wide) will readily break an acute attack, with almost immediate comfort to the patient. At the same time a fairly strong cholagogue should be administered, for in the majority of acute attacks of this complaint digestion is disordered and the liver is very inactive. In chronic lumbago the ice-bag will effect a cure in many cases, and in others it will check the severity of the disease, and give much ease to the patient.

In chronic articular rheumatism the spinal ice-bag may be used from one-half an hour to three hours per day in divided applications, according to the strength and general condition of the patient. If the appetite be good, and the patient fairly strong, then the ice-bag, at first wrapped in one thickness of flannel, may be used morning, noon, and night for an hour, but the physician must exercise judgment, and make the treatment either strong or light according to the strength and natural vital power of the patient. He must also keep the bowels moving steadily and naturally, for when new vigor is suddenly imparted to the whole organism, the secretions from the digestive organs are largely increased, much

more food is consumed, and if care is not taken to evacuate the whole intestinal tract regularly and completely during the first few weeks of treatment, there is apt to be a good deal of trouble with the liver and the digestive secretions.

In an acute attack of lumbago it is my custom to evacuate the whole intestinal tract by a cholagogue pill and a large enema, and to apply the dorsolumbar ice-bag against the skin, and continuously, from the seventh or eighth dorsal to the third lumbar vertebra, until the patient is able to rise and move about with some degree of ease. I then re-apply the bag every four hours, for one hour at a time, until entire relief has been established. A mild tonic with some preparation of iron will then be sufficient to restore the patient to his usual health.

THE USE OF ANTITOXIN.

BY GEO. H. CATTERMOLE, M.D.,
OF LANSING, MICH.:
CONTAGIOUS DISEASE INSPECTOR FOR THE MICHIGAN BOARD OF HEALTH.

THE following observations were made in the wards and clinics of the Berlin Charity Hospital during the winter of 1897–98, and are of interest because of the thorough test given antitoxin as a prophylactic and curative agent.

With a very few exceptions each child on entering the Charité was given a 500-unit inoculation of Behring's serum as a prophylactic against diphtheria. This precaution was taken regardless of what disease the child was suffering from on its entrance to the hospital, and without doubt was a wise measure in such an institution, judging from the fact that a number of cases of diphtheria occurred in the general wards of the hospital, usually about three or four weeks after the entrance of the patients. The prophylactic dose of antitoxin probably only gave immunity for three or four weeks, but as this is much longer than the average period of incubation in diphtheria it is reasonable to suppose that those patients developing the disease after remaining in the hospital for so long a time, must have become infected after entering the wards. As further evidence that the hospital was infected with diphtheria, three patients to whom the serum was not administered on entrance contracted the disease in from two to seven days after being admitted.

Children remaining in the hospital less than three weeks may have been protected from diphtheria by the immunizing dose of antitoxin, although many patients remained in the wards longer than three weeks without contracting this disease. A few patients who were admitted with other diseases, and who received the immunizing antitoxin, developed diphtheria after being in the hospital only a few (three to five) days, but in these cases there is the probability that they contracted diphtheria before coming into the hospital or immediately on entrance to the wards. Without exception these latter cases were of a very mild form, and in this respect show a close analogy to those cases of smallpox in which vaccination has been practised between the time of the exposure of the patient and the onset of the disease. We have good reason to believe that if antitoxins are introduced simultaneously with the toxins, or the toxin-producers, they will neutralize or modify the deleterious effects of the latter. Some interesting results along this line have recently been obtained by Wassermann of Berlin, who injected normal brain substance simultaneously with tetanus bacilli. The animals treated thus remained free from toxic symptoms while the control animals succumbed to the disease. Wassermann explains this by the fact of the toxin combining with the injected brain substance and not affecting the nervous tissues of the animal. In a similar way antitoxin probably neutralizes the poison elaborated by the Klebs-Loeffler bacillus if given before the toxin from the bacillus has had time to poison the nerve-cells and other tissues. In evidence of this statement the following history of a case, in which the antitoxin was probably given too late, may be of interest:

A boy, aged thirteen years, suffering from a severe attack of diphtheria, was admitted to the hospital on the fourth day of sickness. Membrane covered the free edge of the soft palate and both tonsils. He was given Behring's serum on entrance to the ward. His temperature rose for two days (or until the sixth day of illness), after which it began to decline and at the end of the second week was normal. On the twenty-third and twenty-fourth days his temperature rose again, probably due to the development of otitis media. From this time symptoms of paralysis began to appear, involving the soft palate, legs, muscles of the back and muscles of accommodation, while those of the arms were less affected. In this case the serum, given on the fourth day of sickness, was probably too late to prevent the action of the poison upon the nerve-cells, and the subsequent paralysis. He recovered after a prolonged convalescence.

The earlier antitoxin is given after the disease is contracted, the more effectual will its action be. Here is where the private practitioner should act promptly. When administered on the first day of the disease probably all patients recover; on the second and third days the results are not so good, and later than the third day antitoxin may have no beneficial action, as the system is already poisoned. It may even do harm when given too late in the disease.

When children have been exposed, a prophylactic

dose of the serum should be given at once. I am inclined to favor the use of the stronger (concentrated) serums, both for prophylaxis and curative actions, as their use seems to be more certain and followed by fewer cases of serum erythema. This erythema appears one or two days after the administration of the serum and resembles that of scarlatina, but in color is a trifle darker, and is not accompanied by such high temperature. With this erythema there is likely to be greater swelling of the cervical glands. Heubner thinks the erythema is a serious complication and that it may be due to impurities in the serum. Certain it is that patients having this complication are more likely to develop the septic form of the disease. The best explanation of this seems to be that the longer the true diphtheria germ or poison acts on the tissues the more likely there is to be mixed infection. The Klebs-Loeffler bacillus develops more rapidly than the streptococcus, and so prepares a culture-ground for the latter germ. The early use of *good* serum retards the formation of membrane and lessens the chance of mixed infection, but if erythema follows the use of the antitoxin it prolongs the illness and seems to favor the growth of the streptococcus. The following history is a good example of this:

A seven-year-old girl was taken sick, October 23d, with true diphtheria, as shown by the growth of the Klebs-Loeffler bacillus on blood-serum. She was given antitoxin by a physician in private practice (strength not learned). A few days later erythema appeared, due to the use of the antitoxin. At this time she was admitted to the hospital. The cervical glands were enlarged and the case resembled scarlatina, but lacked the high temperature and subsequent appearance of that disease. At the end of the second week the temperature rose to 40° C. (104° F.), and fluctuation was noticed in the glands on the right side of the neck. These glands were lanced, and streptococci were found in the abscess. A few days later Klebs-Loeffler bacilli were found in a membrane which formed on the wound. In the fifth week dulness appeared over the right lung. This was tapped and the fluid found to contain streptococci. They were not pneumococci. Ten weeks after the first sickness an abscess formed over the left shoulder-blade.

This was considered a case of septic infection. The first attack was pure diphtheria, but its cure was delayed by the erythema, and this delay gave the streptococcus time to develop, with subsequent spread of the septic disease.

Serum erythema is the most serious complication that I have observed resulting from the use of antitoxin, but it is not of sufficient importance to make one hesitate for a moment in the use of antitoxin. All reports of its use are favorable. The general use of antitoxin as a prophylactic during an epidemic, and its careful but thorough use in all cases of the disease, would, I believe, reduce the deaths from diphtheria to *nil*.

WAR ARTICLES.

CARING FOR THE SICK AND WOUNDED AT CAMP WIKOFF, MONTAUK POINT, LONG ISLAND.

BY J. H. BURTENSHAW, M.D.,
OF NEW YORK.

ACCORDING to some authorities, no more ideal spot could have been chosen as a site for a military camp than Montauk Point, at the extreme eastern end of Long Island, for the ground is rolling, pasturage for the horses and mules is abundant, and 100,000 men might easily find tent room on the four-mile stretch between sea and sound without crowding. On the other hand, it is claimed that the site is too far removed from the several bases of supply, the ground is not sufficiently level, there are too many marshy places in the hollows, and, above all, there is a lack of wholesome water both for drinking and cooking purposes. The last objection, at least, promises speedily to be overcome, and it is safe to assume that when the 20,000 troops shall have arrived from the various mobilization camps in the South and from the vicinity of Santiago, they will quickly recuperate and forget the hardships of the past.

The regulations which have been adopted in connection with the landing of the troops show admirable forethought, and every precaution will be taken to prevent infection. Quarantine measures on the transports are under the charge of Passed Assistant-Surgeon G. B. Magruder of the Marine Hospital Service, assisted by Passed Assistant-Surgeon J. J. Kinyoun, Assistant-Surgeons Hastings, Tabb, and White, and Acting Assistant-Surgeon Brunner. Under these officers is a staff of three hospital stewards and ten hospital attendants. All transports will be boarded immediately upon arrival in the bay by Dr. Magruder, who will determine whether the soldiers on board should be kept in strict quarantine or simply disinfected. The yellow flag will be hoisted at the time of his visit, and no communication whatever allowed with the shore until the inspection has been completed and the final disposition of the troops determined upon.

There are two piers jutting out into Fort Pond Bay, one above and the other below the railway station, there being a sufficient depth of water at the end of each to allow of the transports making a landing. The men on ships having a clean bill of health will be landed at the lower pier, and after

their clothing has been disinfected and each man has taken a bath, will be allowed to move into the general camp. All troops coming from Cuba will be provided with complete, new outfits of clothing in order to lessen the danger of contagion. Ships reporting illness on board will be required to land at the upper pier, where is moored the disinfecting barge "Protector," recently brought from Philadelphia. This vessel in many respects is a counterpart of the one in use at the Port of New York, having a large chamber for disinfection by means of formaldehyd, another in which sulphur is used, a steam chest, bichlorid tank, four shower baths, six bath tubs, water-closets, laboratories for the examination of fluids, excreta, and the like, and a crematory. Here all the men from these ships will be required to take a bath, they will be supplied with new or disinfected clothing, and then will be removed to the detention camp, where they will remain for a period of from five to seven days under observation before being permitted to go to the general camp. Dr. Magruder and his assistants will be able to provide for the bathing and disinfecting of 100 men per hour, and it is calculated that at least 18,000 of the troops will undergo this process on board the "Protector." All those suspected to be suffering from contagious disease, especially yellow fever, will be sent to the isolation camp, there to remain until the disease from which they are suffering has been diagnosed, or until all danger of contagion is past, when they will be removed to the general hospital. It is probable that all the men suffering from typhoid fever will at once be taken to some one of the hospitals in New York City, in accordance with a suggestion recently made by Dr. A. H. Doty, Health Officer of the Port of New York. A special camp for the treatment of yellow-fever patients has been established, but in the opinion of Assistant Surgeon-General Forwood and Surgeons Magruder and Brunner, it will not be necessary to make use of it, as there is little probability of the disease being brought to this part of the country, even by those coming from the infected district in the vicinity of Santiago.

The detention camp is located about one and one-half miles from the piers and from the railway station, and the same distance from the general hospital. It nestles in a broad valley out of sight from the main thoroughfare leading to the general camp, and is reached by a new road which has just been cut. At present there are about 150 tents in position, but this number will be increased indefinitely as occasion demands. This camp, as well as the isolation and yellow-fever camps, will be subject to the strictest quarantine, and no visitors will be allowed to approach them. Sentries have already been posted on all sides, and at the point where the new road branches off, so there will be little difficulty in maintaining the regulations. The isolation camp is situated three-quarters of a mile from the detention camp, and a mile and one-half or more from the general hospital, also in a secluded spot, and the tents designed for the use of yellow-fever patients are about half a mile further on, at the most distant end of the encampment. Ten ambulances are at present on the ground, and twice this number are expected to arrive within a few days. Ambulances used in transporting men suspected of suffering from contagious disease will be carefully disinfected before again being used.

The general hospital is located on a broad plateau overlooking the ocean on the south and the rolling hills of Montauk on the north, and at present is one and one-half miles from the nearest cavalry or infantry encampment, although as the troops arrive they probably will be assigned to locations somewhat nearer. Too much praise cannot be given to Colonel Forwood and Dr. Ira C. Brown for having overcome difficulties which would have staggered men of less force and ability, for in less than one week they planned and erected the largest and most complete hospital of its kind ever seen in this country. Dr. Brown, who was surgeon of the 6th Cavalry Regiment before being detailed to duty at the general hospital, recently brought thirty-five sick troopers from Tampa to Montauk in a freight-car devoid of comforts or conveniences, most of the men being ill with typhoid fever, and landed his patients at the camp in better condition than when they started. Such a feat is one to be proud of, but the conscientious surgeon decreased in weight by fifty pounds in doing it.

The arrangement of the entire hospital is admirable in every respect, and it will indeed be a very sick patient who is not quickly restored to health and vigor under the influence of these surroundings. At the extreme right, or western end, on slightly elevated ground, are fifteen 12x12 tents occupied by the hospital officers, and a short distance to one side are their mess and kitchen-tents. Fifty feet removed from and in front of the officers' quarters, adjoining the hospital wards, are four rows of three tents each, erected on wooden platforms measuring 14 feet 6 inches by 42 feet, there being two tents to each platform, and each pair separated by a "fly" of the same size as a regulation tent. The first two on the right are devoted to the general offices, the second two to drugs and hospital supplies, and the third two to anesthetizing and operating purposes. On the left are, first, the commissary and quartermaster's supply

tents, then those containing medical stores, and, finally, the executive office and dispensary.

An open space, measuring 24 feet 6 inches, separates the executive office and operating-tent from the hospital wards. Extending for a distance of 245 feet from this line is a wooden platform, 14 feet 6 inches wide, and raised two feet from the ground, and at right angles to this, at intervals of fifteen feet, are sixteen platforms, eight on each side, 14 feet 6 inches wide and 112 feet long, upon which, on wooden framework, the wall tents for the patients have been erected. The long platform is covered over its entire length with canvas, and it thus affords a pleasant lounging-place and promenade for those invalids who are able to be up, and their visitors. The hospital tents on each platform are arranged in pairs and each pair is separated from the next by a "fly" with open sides, thus affording ample ventilation. Each tent is of the regulation size—14x14.6—and the intervening space between each two pair measures the same. There are six tents and two "flies" on each platform, or ninety-six tents in all, and each accommodates five patients, or a total of 480, without crowding. On one side of each tent three beds are placed side by side, and, on the other side two, end to end, thus allowing ample room for a passageway. If occasion requires these wards will accommodate an additional hundred patients, and still give each one plenty of room. The iron beds are of an improved pattern, and may be folded up. Each is supplied with wire springs, two pairs of blankets, a feather pillow, and sheets and pillow case. Portable commodes are in each ward.

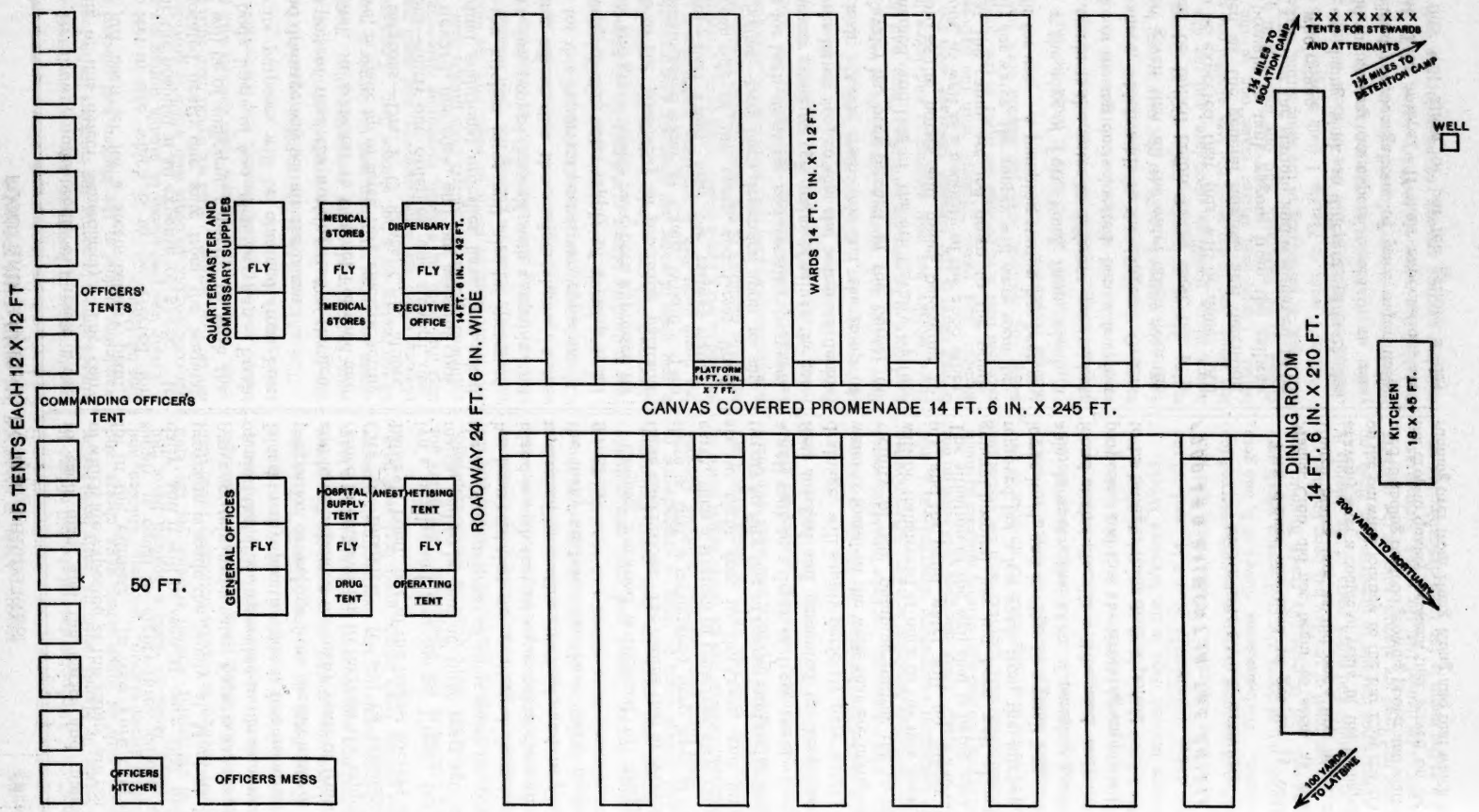
Each ward and bed in the hospital is numbered and an indexed list of all patients is kept by Dr. Brown. A morning and evening report is made to him by the assistant surgeons of the condition of every patient in the wards, and these reports are filed away for future reference should this be necessary. An ambulance bearing a sick or wounded soldier is driven to the executive office at the end of the row and, if practicable, the patient's history is taken by one of the assistants, and he is then carried to one of the wards on a stretcher. At the time of my visit (August 12th) there were ninety patients in the hospital, fifteen having been discharged and ten admitted that day. About seventy per cent. of these were suffering from chronic diarrhea and dysentery, contracted at the camps in the South. There were seven cases of typhoid fever, all in the last stages, and the patients were rapidly convalescing. Not a single case of contagious or infectious disease up to that time had developed among the 3500 troops then in camp.

It is not likely that a patrol will be established around the quarters of the general hospital, as this step is considered unnecessary, but care will be taken that the patients are not fatigued by too much attention on the part of visitors, and the hours at which the latter will be permitted to enter the hospital will be limited. The Red-Cross Society and the Women's National War Relief Association have established headquarters there and clothing and delicacies of all kinds are abundant. When I asked Colonel Forwood if anything else was needed his reply was characteristic. "If we were to accept all offers of assistance," he said, "we would have to put up a storehouse as big as the hospital itself. We want the New York daily papers, the magazines, and the pictorial weeklies—all these and more, but we *don't* want any more jam and pajamas. The commissary tents, medical supply-tents, and even the tents of the officers are bulging with jam and pajamas, and still they come by every train." It is to be hoped that the many war relief societies throughout the country will take the hint.

Miss Helen Gould has supplied the patients with an unlimited quantity of mineral and other waters, and has given Dr. Brown authority to order anything else that may be needed at her expense. The question of diet for the sick was of such importance that it received attention at the very beginning, and it was proposed to erect a special diet-kitchen for the purpose of preparing the food, but the matter has been simplified by Colonel Forwood, who has set aside a large cooking-range in the general kitchen for the exclusive use of two experienced cooks, who are to be installed by the Womens' Relief Association, and the same organization will also furnish all necessary supplies for this purpose.

At the eastern end of the hospital is a platform upon which is the general dining-room, access to which is gained from the long covered promenade before mentioned. This room is 14 feet 6 inches in width and 210 feet long, and is divided into sections of three tents and a "fly" throughout its length. Here the convalescents and hospital attendants will take their meals. Twenty-four feet to the rear of this structure is the hospital kitchen, 18x45 feet, which has a brick floor and, at present, two modern cooking-ranges, with room for three additional ones if their use becomes necessary. The mortuary is temporarily located about two hundred yards from the dining-room, but its position is soon to be changed.

The sink, or latrine, at the hospital is crude in construction and entirely inadequate to the needs of the inmates. The plans and specifications of the latrine devised by Dr. John McG. Woodbury, the present chief sanitary inspector of the army in Porto Rico, which were recently forwarded by the MEDICAL



GROUND-PLAN OF THE GENERAL HOSPITAL AT CAMP WIKOFF, MONTAUK POINT, LONG ISLAND.
Erected under the personal supervision of Colonel W. H. Forwood, Assistant Surgeon-General, United States Army.

NEWS to Dr. Brown, undoubtedly will result in the remedying of this defect immediately. The contract has just been let for a steam-laundry plant, 30 by 60 feet in size, which is to be erected for the use of the hospital at an expense of $2500. It will be located nearly one mile from the hospital site, and will be of sufficient capacity to wash the bed and body linen of 600 men per day. Fresh water for its purposes will be obtained from Fort Pond, and drainage will be into the ocean.

At the present time the working staff of the general hospital, in addition to Colonel Forwood and Dr. Brown, is made up of three very efficient acting assistant surgeons—Drs. F. G. Jones, C. E. Moore, and Moons—thirty-one orderlies, one steward, one assistant steward, one cook, and one assistant cook. One hundred additional orderlies have been asked for, and the kitchen force will also be increased. Dr. Brown has proved himself such a capable and painstaking officer that the wisdom shown in his selection for this important post is very apparent.

The purity of the water-supply of a camp is all important, and grave doubts have been expressed by experts as to the possibility of procuring palatable and uncontaminated water at Camp Wikoff. Two small lakes—Fort Pond, near the railway station, on the ocean side of the camp, and Great Pond, near the Sound—have been depended upon to supply water for both drinking and cooking purposes, but the former contains 158 grains of salt to the gallon, and the latter 210, so that the water is decidedly brackish. Aside from this fact, the camp of the 9th Cavalry has been pitched at the border of the first named, and that of the 6th Cavalry by the second, and as the horses and mules belonging to these troops, as well as a majority of the 2000 other animals at the camp, are led down to the ponds twice daily for water, the supply will very soon become unfit for use. A pumping-station has been established at the edge of Fort Pond, from which a pipe-line conducts the water to different points, but the in-take of the station is located but a few feet from the shore, which adds to the danger. Orders have been given that all the water taken from the ponds must be boiled before being used, but it is hardly to be expected that this will be done. All water used at the general hospital and detention camps is brought in tank-wagons from the railway company's well at the station, and is supposed to be pure and wholesome.

Wells are being sunk in different parts of the camp, and the contractors expect to obtain an output of at least 200,000 gallons of pure water daily for the use of the troops. If their expectations are realized this will allow of but ten gallons a day to each man, and the horses and mules, 10,000 of which are expected at the camp, are not provided for in the estimate In New York City the water-supply is equal to eighty-three gallons per capita daily, and it will be seen at once that unless other provision is made the supply at Montauk Point will prove entirely inadequate. Experts have expressed the opinion that it is impossible to obtain water on Long Island in any quantity that is free from surface impregnation or seepage from the salt water or marshes, and have instanced the many years of fruitless experience in endeavoring to increase the supply for the City of Brooklyn. It will be remembered that Baisley's Pond, one of the largest sources of Brooklyn's supply, and also Spring Creek, both in Jamaica, had to be shut off three years ago because of the absolute unfitness of their water for city use. It has been said that the geological formation of the island is such that all water below the surface is contaminated by surface drainage, and in proof of this the many analyses that have been made are referred to.

Colonel Forwood is inclined to disagree with these conclusions. He claims that at Montauk Point there is, first, a moderately deep layer of rich, black earth, then a stratum of tenacious clay, ranging from six to eight feet in thickness, and, finally, from twenty to fifty feet of coarse sand and gravel, and that a well sunk to a depth of from twenty-four to forty feet, bricked and cemented to keep out surface drainage, will supply perfectly pure water. If good water is found in the wells that are being sunk in the vicinity of the pumping-station the in-take pipes will be transferred at once to the new source of supply, and the pond water will no longer be used. The situation of the well that is being sunk near the general hospital has not been well chosen. It is removed but a few yards from the kitchen, is on a lower level, and is close to a small bog. It is probable, however, that even if passably good water is found at this place it will be used only for cooking purposes, and that the drinking-supply will continue to be brought from distant points.

FOOD AND RAIMENT IN THE PHILIPPINES.

BY JOSEPH EARLE STEVENS
OF BOSTON.

THE dinner one used to get for 35 cents at the Manila Club did not begin to seem as strange after United States fare as did one's first home meal taste heavenly after a couple of years in the Philippines. For on the outward journey to the Far East the traveler gets used to finding the food growing poorer and scarcely notices the drop in quality between that served on the steamers running over from Hong Kong and that which he finds at

the English Club. Although a dose of the bill of fare at the Hotel Oriente in Manila, with its early breakfast of thick chocolate, with its lunch of fish, eggs, cheese, and bananas, and its dinner of soup, "puchero," chicken, and boiled goat rarely failed to instil a Spanish flavor into the breath of the freshly arrived traveler, yet the club table was good enough not to be noticeably worse than that in Yokohama and Hong Kong. Peculiarly enough, however, when one retraced his steps and started homeward the change seemed prodigious, and a first meal in the Hong Kong hotel, or on the "Coptic," or at the Grand in Yokohama, tasted so supremely far above Manila fare that one was consoled for having eaten a long series of Philippine meals by the overwhelming pleasure of once more getting fresh celery, good beef, new peas, and pie.

Cattle don't thrive in the Philippines. Sheep are not found there. Potatoes don't grow in the Archipelago. Vegetables are everywhere scarce, so it seems, and the peas and asparagus one gets come mostly from France or Germany. In peaceful times, gone by—to be sure—the industrious Chinaman in his little garden raised delicacies for the tables of foreigners, but now that most of these almond-eyed celestials have retired with their dollars to China, tomatoes, lettuce, beans, and corn, are probably scarcer. Chicken and eggs are two great Philippine standbys, and always seem to form a groundwork to every meal. Beef from poor wornout bullocks, shipped up from Australia, likewise has its usual bright place to fill, but mutton and potatoes have to come over from China. Fruits, Manila has in plenty, and what with mangoes, mangosteens, oranges, bananas, pineapples, grape fruits, and melons selling for a song, the market is well supplied.

The meal hours of the foreigner in Manila are somewhat curious. The "desayuno," or light breakfast comes at 7.30; tiffin, or hearty breakfast at noon; afternoon tea —a peculiar institution everywhere observed—at 4, and hearty dinner at 8 P.M. Thus, one goes until noon on not more than an egg or two and a bit of fruit, and eats so much at tiffin in consequence, that, together with the rest of the town, he has to lie off in a long chair for an hour or two in order to acquire energy enough to return to work. But it is thoroughly advisable to follow the local custom in taking the siesta during the middle of the day and, as all Manila seems asleep between 12 M. and 3 P.M., one soon acquires a habit that is hard to get rid of after a return to the more hurried days in the Western World.

Tea comes along conveniently at 4 P.M., and all the big offices have their tea-room. Toast, fruit, and jam, play their part and business gossip is always reserved for just this occasion. With the home dinner at 8, one gets a chance to enjoy, out of doors, the cool season which surrounds the sunset, and is generally ready to go to bed shortly after the last meal of the day has been finished.

All meat in Manila and other parts of the islands is eaten fresh-killed, since ice fails to preserve fish, flesh, or fowl, and game and fowl are always sold at the markets alive. It is not to be denied that the tough, stringy taste to this portion of the menu is far from desirable, but necessity seems to know no law and one must accustom himself almost to seeing the chickens for his fourth course wandering around in the kitchen half plucked as he begins his feast.

Living was very cheap in Manila during my stay, and our cook got but 40 cents with which to provide the dinner for four people. And we would have such dishes as soup, fish, chops, and peas, roast chicken with potatoes, beans, and corn, salad, dessert, and fruit—quite a repast for so small a sum.

The milk available in the Philippines rarely comes from the Jersey cow, but is a product of the "carabao" or water buffalo, and tastes somewhat oily. Oatmeal and cream are things unknown, and the former is now said to be too heating for a hot climate diet. Chocolate seems to come under the same category, and even mangoes—that fruit with the smooth, turpentine taste—have to be eschewed by him who suffers from prickly heat. Bread, too, is not eaten so much as toast, and the foreigner almost always insists on getting his "pan tostada" in order that any lurking microbes, which the bread may have absorbed during the process of manufacture in the little Chinese bakery, may be destroyed.

As the Manila water-supply was good I had no hesitation in drinking plenty of Adam's ale and never found it disagreed with me. In fact, some of the old stagers say a long glass of water just after one gets up in the morning doeth good like a medicine, and suffice it to say, it seemed to work like a charm in my case. Needless to remark the members of the small English colony, which did not number more than three score and ten, all drank whisky, and many of them insisted that unless one took just so much of that article each day he would surely get the fever. Brandy has been given up in the East as a regular beverage, for it seems to have been the cause of much liver trouble and, whereas, thousands of cases of brandy used once to be sent out to India, China, and the Philippines, whisky has now stepped in and taken its place. Strong claret is the popular beverage with the Spanish element, and sweet "licores" with the natives. Most excellent beer is to be had on draft at the "cervezerias" along the Escolta, and the Manila brew has quite a famous reputation.

In conclusion, as to food it must be said that, in peaceful times, Manila fare is not bad, though it lacks variety, and such articles as one gets in the ordinary menu at the club, or in the restaurants seem amply to supply the demands made on the new arrival by the climate. Heavy or heating foods, such as oatmeal, baked beans, plum puddings, chocolate, and the like are best left alone, and in my mind the less alcohol one takes the better. Claret and seltzer make one of the cleanest drinks to be imagined, and one better than a brandy and soda, or something of the same strong make-up.

When I went to Manila I took several suits of light clothes, but failed to use one of them during my two-years' stay. Even the thinnest garments made in the States seem too heavy for the climate of the Philippines, and it is far wiser, in ordinary times, to go to Manila with but clothes enough to serve for the cool weather

of the journey. Plenty of handkerchiefs, light undershirts and socks may well form part of one's wardrobe, but beyond that it would generally be as well to let a Hong Kong or Manila tailor fit one out with the light and airy costumes of the country. These suits are made of thin, white sheeting, and some of them consist of but two pieces—a light button-up military jacket and pair of trousers. Others have the ordinary open-front jacket, and whereas—dressed in the first costume—one need not wear shirt, collar, or tie; in the second he has to be provided with all of these. The button-up—as it is called—is best for hot work in the office or in the sun, and the open jacket is more suitable for the promenade or a dinner at the club. Thin, white dress coats, without tails, are also in vogue, and a Tuxedo coat, with white sheeting trousers, is all right at a dinner party. Drawers are not generally worn, but in their stead comes the flannel cholera belt which protects the stomach from exposure to sudden drafts. A fresh suit is worn daily by the regular resident, and fresh socks and fresh underwear. One needs about eighteen of these white suits to have plenty for daily use and an extra change on Sundays or feast-day occasions, and as the laundryman used only to charge $2.50 a month for washing all that one wished to throw in the hamper, the question of expense was merely the initial one at the tailor's.

Felt hats are in vogue, as a rule, with the European colony, but now and then a Panama is visible. As before said, the great point is to have the headgear thick enough to keep the sun from penetrating the hat material and to see that it somewhat protects the back part of the neck. Pith helmets and sun hats are always advisable for use in the heat of the day or for trips to the provinces, and because the natives go bareheaded is just the reason why the foreigner should not do so. Thus to conclude, as food is cheap in Manila, so is dress, and the white suit should not cost over $2.50. One never feels so cleanly as when after his bath each morning he puts on an entirely fresh set of garments, and at night it is a positive relief to feel that you can thoroughly shake off the day's impressions by thrusting your moist clothes into the hamper presided over by the "lavandero." A native servant is, of course, invaluable to look after one's wardrobe, and if at the start he is made responsible for everything his master entrusts to his care, he generally sees that nothing goes astray.

Scarcely anywhere in the tropics can people dress as cheaply and live as cheaply as in Manila, and if that were the end and aim of life we should see boat-loads of wanderers going to the Philippines. But, in my mind, very few Americans will ever be content to settle permanently in the Archipelago and, like myself, will be glad to feel they are only transients.

Sanitary Inspector at Santiago.—Sanitary Inspector H. S. Caminero, United States Marine Hospital Service, who before the inauguration of hostilities with Spain was on duty at Santiago, and who since that date has been at Kingston, Jamaica, has resumed his duties at that port, and will have full charge of the quarantine service there.

AMBULANCE DRILL WITH SWORD SIGNALS—DISTRIBUTION OF PERSONNEL AND MATERIAL ON MOBILIZATION.

By HENRY I. RAYMOND, M.D.,
MAJOR AND BRIGADE SURGEON, UNITED STATES VOLUNTEERS, COMMANDING AMBULANCE COMPANY.

THERE are few exercises more exhilarating in the early morning air than mounted drill with a train of ambulances guided in their movements by sword signals from the officer in charge, with the immediate translation of the signals by the ambulance orderly—a smart, bright young fellow, quick of apprehension and of good lung power—who sits beside the driver on the box with arms folded, eyes clinging to the signal sword, and all alertness in look and actions to cry the signals back to the succeeding ambulance, sixteen feet in the rear, and so on till the rearmost orderly, catching it up, sounds it in the ear of his driver whose eyes are bent upon the roadway ahead and upon his fractious mules, his ears open to the several commands, "right by ambulance, march," "trot," "gallop," "decrease speed one degree," "on right into line, march," "halt," etc.

More than one tail-gate has been battered by the oncoming pole of the ambulance in the rear, in obeying on the trot or gallop down hill a badly timed signal from the instructor to decrease one degree (gallop to trot, trot to walk), and similar occurrences are likely to take place on level ground when the proper intervals—sixteen feet—between ambulances in column are not rigidly observed. And yet the ambulance company must train to go on the double-quick, for much of its utility depends upon celerity of movement and precision of action in getting to the front and handling the wounded with expedition and care. To approximate this degree of perfection demands training—repetition of the action under conditions approximating actual service upon the battle-field as nearly as practicable. To this end, also, ambulance drills are conducted ofttimes on drill-grounds or commons occupied simultaneously by companies or battalions of the regiments of the divisions at the early morning drills or exercises.

The ambulance companies of this corps are now organized in accordance with Circular No. 3, from headquarters, 3rd Army Corps, Chief Surgeon's Office, making the following distribution of personnel:

	Brigade Hdqrs.	Sections. 1st.	2d.	3d.
Six Medical Officers:				
1 Medical officer, commanding	1	..	..	..
1 Medical officer, executive	1	..	..	..
1 Medical officer, subsistence	1	..	..	..
3 Medical officers, attending surgeons	..	1	1	1
1 Quartermaster, Lieut. of the line	1	..	..	..
Ten Non-Commissioned Officers:				
1 Hospital-steward (1st. sergt.)	1	..	..	..
2 Hospital-stewards (Ambulance sergts.)	..	1	1	..
1 Hospital-steward (Dispenser)	1	..	..	..
1 Hospital-steward (Q. M. sergt.)	1	..	..	..
2 Hospital-stewards (Bearer sergts.)	..	..	1	1
1 Acting-steward (Commissary sergt.)	1	..	..	..
1 Acting-steward (Bearer sergt.)	..	1	..	..
1 Acting-steward (Records)	1	..	..	..
1 Trumpeter	1	..	..	..

	Brigade Hdqrs.	Sections. 1st.	2d.	3d.
2 Cooks	1	..	..	1
2 Assistant Cooks	..	1	1	..
25 Ambulance drivers	1	8	8	8
38 Litter-bearers and attendants	1	12	12	13
25 Ambulance orderlies	1	8	8	8
5 Orderlies	2	1	1	1
4 Wagon-drivers	1	1	1	1
1 Blacksmith	1	..	..	..
1 Saddler	1	..	..	..
	19	34	34	34

It is stipulated that at least one section will always be with headquarters. As to material, it is provided that blacksmiths' and saddlers' tools will, as far as practicable, be carried, each set in a specially prepared chest, with headquarters' equipage. Other camp equipage and material is equally distributed among the three wagons (one for each brigade section) so that what pertains to the dressing station, including hospital flags and National flags with halyards and poles, will be carried by the respective brigade section wagon.

In camp the men have been provided with conical wall-tents, accommodating from fifteen to eighteen to the tent, but on the march "the men will occupy shelter-tents in which, when struck, they will roll a rubber blanket and their clothing, and which will be carried in the wagons of their section." Rations, forage, and officers' baggage are distributed as follows:

	Brigade Hdqrs.	Sections. 1st.	2d.	3rd.
5 Days' rations (114 men)—lbs.	428	428	428	428
5 Days' short forage (81 animals)—lbs.	911	911	911	911
Officers' baggage—lbs.	450	150	150	150

Medical supplies, hospital stores, antiseptics, medicines, etc., are carried in the ambulances and so distributed that ambulances 1 and 5 of each eight ambulances pertaining to a given section will carry medicines and medical supplies, while 2, 3, 4, 6, and 7, will carry hospital stores.

Circular No. 3, above referred to, itemizes all material supplies both in the medical and transportation departments of the ambulance company, and closes with the following paragraphs:

"All the material herein laid down will be provided, and so much of it as is not needed for current use will be kept separate and packed in such a manner that the ambulance company, or any part of it, can be mobilized at the shortest notice.

"The company will be frequently practised in pitching and breaking camp, organizing dressing and ambulance-stations, and in such other work as it will be called upon to do on the march and battle-field. The officers, non-commissioned officers, and men must be assigned by name in written orders to the brigade sections and to their sections on the battle-field.

"Every man of the ambulance company will be properly uniformed, will wear leggings, and be equipped with canteen, haversack, and belt.

"A designated number of men will wear the hospital corps litter-sling and orderly pouches herein provided."

CLINICAL MEMORANDUM.

A CASE OF OTITIC BRAIN ABSCESS (FROM CHRONIC OTORRHEA); OPTIC NEURITIS; OPENING OF THE MASTOID AND SKULL; RECOVERY.[1]

By FRANK S. MILBURY, M.D.,
OF BROOKLYN, N. Y.;
LARYNGOLOGIST, OTOLOGIST, AND OPHTHALMOLOGIST TO THE BEDFORD DISPENSARY AND HOSPITAL, AND TO THE NORTH BROOKLYN EYE, EAR, AND THROAT HOSPITAL.

On May 25, 1897, Mrs. J., aged thirty-three, came to my office, bearing a letter from Dr. James J. Bowen, requesting me to examine her and to render my opinion, at the same time stating that he believed a mastoid operation was indicated. As I could get no intelligent history from the patient I interrogated her sister, who stated that there had been more or less continuous discharge from the left ear since infancy, following scarlet fever. At this time it was extremely offensive. By the touch of a sound dead bone was easily perceived in the tympanum and posterior wall of the meatus which was swollen and bulged forward. The mastoid was edematous and very red. The entire side of the head was acutely sensitive to the most gentle pressure. Violent uncontrollable headaches had continued several weeks. Slight paralyses of the left side of the face and right arm and leg existed. Her past life seemed wrapped in complete oblivion, and it was almost impossible for her to put what thoughts she had into words, showing amnesic aphasia. Temperature, 100° F.; pulse, 115. Excessive vomiting on the least movement of the head, and nearly as much when lying down with the head perfectly quiet. The ophthalmoscope showed optic neuritis in the left eye, but the condition of the patient precluded any further examination of the eyes by the perimeter or otherwise. It is possible that there may have been hemianopsia. It was evident that mastoid necrosis and suppuration existed, with possible cerebral abscess and meningitis, and the sooner an operation was performed the better. Accordingly she was placed in the Bedford Dispensary and Hospital.

The next day, May 26, at 11 A. M., with the assistance of Drs. Bowen and Rickard, she was anesthetized, the head was shaved, and under the most careful aseptic precautions we incised the soft tissues, detached the lining membrane of the meatus, laying the ear forward, and retracted the posterior integument, giving a clear view of an extended field. The cortex in places was soft but no fistulæ or pus were visible on the surface of the bone. By cautious chiseling, the antrum was entered. With a probe I explored and found in every direction carious bone, which was easily removed by a sharp spoon, and nearly the entire mastoid was found to be involved. The antrum and large cell at the tip of the mastoid and smaller cells were filled with very foul pus. The lateral sinus came into view, but looked blue and healthy and was pulsating. A large sequestrum was removed from the posterior wall of the meatus, making a broad connection between the tympanic cavity and antrum. The posterior-superior wall, which was soft, was also

[1] Read before the New York State Medical Association.

removed, and the moment the brain cavity was entered pus welled out in large quantities. I enlarged the wound in the skull with a rongeur, and with a sound measured the depth and extent of the pus-cavity. Greatly to my astonishment the instrument passed in about 4½ inches, and I think the sinus had a diameter of fully an inch and involved a portion of the temperosphenoidal lobe. Dr. Arthur C. Brush, a well-known neurologist of Brooklyn, who was called in consultation, is of the opinion that the abscess was, in this case, formed by a localized purulent meningitis, the walls of which were formed by adhesions between the dura and the arachnoid. In other words it was an intradural abscess. He does not think it involved the brain-tissue proper to any extent on account of the rapid and complete disappearance of the symptoms after the pressure was relieved by the evacuation of the pus, which would preclude any destruction of brain tissue.

The position of the lateral sinus would indicate that it was situated above the tentorium, and the direction taken by the probe that it extended inward, forward, and downward; that is, along the superior border of the petrous portion of the temporal bone to, or even beyond, the median line. An abscess in this situation on the left side would, by pressure on the speech-centers, give rise to aphasia with or without paralysis of the muscles concerned in the movements of the face and in speech, on account of their dual representation, and the fact that the more highly organized centers are the ones which are first and most seriously affected. The right hemiplegia is easily explained by pressure on the adjacent capsule. The left facial paralysis was due to the local involvement of the facial nerve in its passage through the petrous portion of the temporal.

Two hours had elapsed in the tedious work and was well borne by the patient, but when we began we had little hope that she would survive the operation. The wound was flushed with a 1 to 6000 corrosive-sublimate solution, dusted with iodoform and dressed with sublimate gauze, a drainage-tube being put in place, and the whole covered with cotton and a roller bandage. She was put in bed at 1:30 P. M.; temperature, 101° F.; pulse, 125; extremities cold. Hot-water bottles were put at the feet and every two hours she was given an injection of strychnin and whisky. The after treatment was long and tiresome. Temperature at 6 P. M., 100° F.; pulse, 120, and at 8 P. M., 110° F. Extremities warm; reaction from ether good; vomited considerably; slept from 12:30 A. M. to 5 A. M.. Frequent vomiting continued for six days, or until June 2, and for twelve days thereafter the temperature varied from 99½° to 101° F.; pulse, from 80 to 120, sometimes weak and intermittent, and at other times full and strong. The patient could retain no food but was nourished by enemata. At the first dressing quite a quantity of pus came from the wound but it was odorless. During the first seven days she remained in a state of almost constant lethargy, uttering no sound and apparently recognizing nothing. On the eighth day when Dr. Bowen called her by name, asking her if she knew him, the response was by quite a firm pressure of the hand. On the ninth day, June 4, and for several days thereafter, when asked a question, the answer would be "no" or "yes, dear," placing her hand upon her head, at the same time giving utterance to the word "pain," but not conscious of what she was doing. On June 7th, when asked how old she was, she shook her head, indicating she did not know, but when told said "all right."

The wound healed kindly, and improvement continued gradually, but slowly, until a complete restitution of the mind and a disappearance of the paralysis of the face, arm, and leg resulted. The hearing in the left ear is, of course, gone, but her vision is now normal. At rare intervals she will say peculiar things, apparently not realizing what she is uttering.

I have been unable to discover a parallel case in literature and doubt if there is one. It was seen by a large number of well-known physicians, but none could understand the existing condition, and the greatest mystery of all is the recovery. Another peculiar feature is the fact of her being about four months pregnant, and through it all did not abort. The mental condition was probably due to the abscess and pressure on the brain, which occasionally occurs in such cases.

MEDICAL PROGRESS.

Effects on the Tissues of the Different Fluids Used in Surgery.—VAN DER VELDE (*Rev. de Therapeut.*, July 1, 1898) has drawn the following conclusions from a study of the effects of various fluids on the cells of the blood and the tissues. Plain distilled water alters the blood-cells at once, destroying many of them. In physiological salt solution even the most delicate cells preserve their appearance and their functions as well. The various artificial serums, so called, suggested by Hayem, Cheron, and others, and which contain in addition to sodium chlorid a certain amount of sodium sulphate or other salts, possess no advantages over the physiological salt solution, and exert a more or less harmful action on some of the cells. Antiseptic solutions, whether of bichlorid of mercury, carbolic acid, boric acid, permanganate of potash, formaldehyd, nitrate of silver, etc., are so destructive to the tissues that the effect of a drop of them is often visible to the naked eye. They ought, therefore, never to be used in fresh wounds or in serous cavities. And even in the uterus, as after a curettement, it is better to use the saline solution six parts per thousand to wash out the débris, for the shape of the cavity makes a perfect disinfection of its lining with a fluid an impossibility, and by using the saline solution the danger of poisoning is avoided.

The Increase of Cancer and Its Cure by Cataphoresis.—MASSEY (*Vir. Med. Semi-Monthly*, June, 1898) presents a table showing the increase of cancer in Philadelphia during the last thirty years, basing his conclusions on the official reports of death from this disease. Thus in 1861 there were 31.7 deaths from cancer to every 100,000 of the population, an average which has risen

almost constantly until in 1897 the ratio was 56.6 to 100,000. In the former year cancer was the assigned cause of 1.36 per cent. of the deaths, while in the figures for last year it was the assigned cause in over 3 per cent. of all deaths. In England a similar increase has been noted. In 1861 there were only 37.6 deaths from cancer to 100,000 inhabitants, while in 1886 the number had risen to 61.

Massey has had good results in the cure of cancer by the dissemination throughout the growth of the nascent oxychlorid of mercury,* or the mixed oxychlorids of zinc and mercury, using a powerful galvanic battery capable of generating a current of 1500 milliamperes for half an hour or more if necessary. Anesthesia is required, and a gold electrode, with a covering of mercury, or an electrode of zinc and mercury is thrust into the growth while large dispersing pads are placed on different parts of the body. Every effort is made to cure the growth at one sitting. Seven patients are reported to have been cured, both carcinoma and sarcoma being included in the list.

Advantages of Nitrous Oxid Mixed with Oxygen for Brief Anesthesia.—GARDNER (*Brit. Med. Jour.*, April 30, 1898) has had such good success from the use of a mixture of nitrous oxid and oxygen for inducing brief periods of anesthesia, twenty minutes or less, that he cannot recommend it too highly. The symptoms accompanying inhalation of nitrous oxid alone are cyanosis, jerky, rapid breathing, twitching of the limbs, and dilated pupils. These objectionable results are avoided by the admixture of oxygen, and a little practice enables the anesthetist to administer the gases in the right proportions. If the breathing grows faster and deeper and the color a trifle dusky, more oxygen is wanted; if quieter and slower, the oxygen must be reduced. At the beginning of the inhalation the patient is given only 2 or 3 per cent. of oxygen, but this amount is gradually increased until 10 or 20 per cent. is reached. The color is normal, the breathing of a softly snoring type, not so stertorous as with ether, not so quiet as under chloroform; the pulse is strong, full, and regular; the abdomen is generally quite flaccid, but the limbs may show a slight tendency to rigidity; though the legs will offer no resistance to being placed in the lithotomy position, they may show slight reflexes from time to time. The blood from an incision during this anesthesia may appear somewhat venous at intervals; this is not, however, due to congestion, but to the fact that nitrous oxid to some extent replaces oxygen in the hemoglobin and the purple color of the new product becomes evident in the flowing blood, even while the facial color is healthy in appearance. Alcoholic patients are not good subjects, nor are very powerful athletic men; but most women and well-nourished persons generally can be regarded as suitable cases, while those who are weakened by illness often take the gases remarkably well.

Frequency of Gall-stones in the Subjects of Mitral Stenosis.—BROCKBANK (*Edinburgh Med. Jour.*, July, 1898) publishes some tables to illustrate the frequency of gall-stones in patients suffering from mitral stenosis. His investigations extended over a period of six years, and the conclusions are based on more than 1300 autopsies. A distinction is made between primary and secondary cholelithiasis. The former occurs in people who are generally over fifty years of age, and otherwise healthy. It is probably due to same nutritional change in the epithelial lining of the biliary passages, so that more cholesterin than usual is secreted, or the solvent power of the bile is decreased. Primary cholelithiasis is rarely met with post-mortem.

In secondary cholelithiasis, the stones are formed at an earlier age in a patient who is suffering from some other complaint, generally of the heart and liver. This condition is fairly common post-mortem, but is rarely suspected during life.

In all, Brockbank found gall-stones in 7.4 per cent. of the autopsies made. They were about four times as frequent in women—15 per cent.—as in men, 4 per cent. Schroeder of Strassburg found them in 4.4 per cent. of male subjects, and in 20.6 per cent. of female subjects.

Gross cardiac lesions seem to double the risk of development of gall-stones in both the male and female, for while in the subjects having normal hearts the percentage of those having gall-stones was 5.4, they were present in 10.9 per cent. of the subjects with imperfect hearts. Of the subjects having mitral stenosis, the proportion with gall-stones was highest of all, or 16 per cent. for males, and 25 per cent. for females, or 21.8 per cent. for both sexes together.

The further interesting fact is reported that the bile in the gall-bladder of many patients who have died from chronic heart disease, but in whom no gross evidence of cholelithiasis is manifest, if examined microscopically, will often be found to be full of desquamated epithelial cells, floating singly or in clumps, together with a few cholesterin crystals. If such bile is examined from day to day it will be seen that the epithelial cells gradually disappear, and that the crystals increase, until the bile contains innumerable numbers of them. Perhaps no better explanation of these phenomena can at present be given than to say that the lowered vitality of the system generally, and the passive congestion of the mucous membrane of the gall-bladder, which accompany severe chronic lesions of the heart, predispose to the formation of an increased amount of cholesterin by the epithelial cells of the biliary passages, and by the enforced inactivity of the patient this excess of crystalline substance tends to remain behind in the dependent fundus of a frequently enlarged, depressed, and sluggish gall-bladder.

Hemiplegia Following the Administration of Chloroform.—INGELRANS (*L'Echo Med. du Nord.*, June 26, 1898) mentions that right-sided hemiplegia developed in a somewhat nervous, but on the whole healthy, woman, upon whom a laparotomy had been performed for uterine fibroids. The operation was not a difficult one, and lasted about an hour. Nothing abnormal was noticed until about four hours later, when it was observed that the right arm and leg of the patient were completely paralyzed, motion and sensation being alike impossible. The face was less affected and she spoke with some difficulty.

Improvement in the symptoms began almost immediately, but for three weeks there was complete incontinence of both bladder and rectum. Sensation returned before motion. Power was first restored in the leg, and more slowly in the arm. Two months after the operation she was able to leave the hospital, although restoration of function was by no means complete. There was a suspicion of syphilis in the case, but the patient, although a widow, had never miscarried nor borne children. Iodid of potash was given from the time of the attack.

Ingelrans was able to collect from medical literature fourteen cases in which a paralysis, either motor or motor and sensory, followed the administration of chloroform. This accident was variously explained by the different operators. In one case it was ascribed to hysteria; in another to an old apoplectic attack. At autopsy in one case there was found a fresh hemorrhage in the brain, in another an area of cerebral softening without obvious cause, and in a third a serous effusion into one of the ventricles. Besides the advocates of the theories of cerebral hemorrhage and cerebral anemia with necrosis, to explain the paralysis, there is also those who say that chloroform has a direct toxic action on the cells of the body, and they cite the presence of albumin in the urine after chloroform as a proof of this. There is wanting, however, the clinical evidence to support this explanation of the paralysis.

The prognosis of this complication of anesthesia is good. Three of the patients whose cases have been reported died in a short time, but none of them from the effects of the paralysis. One died from a bronchopneumonia, one from the cancer which was the cause of the operation, and one from the sequelæ of his strangulated hernia. In all the other cases the paralysis either disappeared entirely, or was greatly improved at the time the report was made.

THERAPEUTIC NOTES.

The Cure of Writer's Cramp.—MONELL (*Med. Record*, July 23, 1898) makes some pertinent remarks about the so-called neuroses, "writer's" or "telegrapher's cramp." These troubles are not really neuroses, but are the result of malnutrition. After exercise a muscle repairs its wasted fibers during a period of rest. When the use has been so violent or so long-continued that this repair cannot take place there is a permanent impairment of the muscle. It cannot be restored to its normal condition by rest. Were this possible almost all of the severe cases of telegrapher's cramp would be unknown, for all of these patients give a history of periods of rest in the attempt to regain lost power. The fact that the cramp occurs is only another way of saying that the muscles have lost the power of repair through rest. Hence it is worse than useless to tell these patients to rest.

Massage is successful in a certain number of cases in restoring the patient's muscles to their previous condition, but it is at best a clumsy way of accomplishing this end, and in the severer cases it fails of its purpose. The nutrition can, however, be restored by the persistent use of galvanic and static electricity. The plan of treatment advocated is to give the muscles first a gentle warming-up application to quicken the circulation, as the preliminary canter warms up a racehorse before he enters the race. The arm is next subjected to general nutritional muscular contractions, regulated in energy and number by the tolerance of the tissues. Finally the arm is given a refreshing, restful, nutritional application, which leaves it at the close of treatment invigorated, buoyant, and elastic. The total treatment requires about ten minutes, and every moment and every detail of each application aims at improving the nutrition of muscle-fibers. In all cases, even the most severe, such treatment will give in a week's time a feeling of comfort, and in the lighter cases there will be in two weeks a complete cure so that the patient may return to his work. In severer cases treatment must be longer continued, but no case is so severe or so long standing that it may not be fully cured in from forty to sixty treatments. General treatment of the health is naturally attended to, and in every case the local improvement will continue long after the treatment has been suspended. In the more severe cases it is desirable that the patients come back every year for a fortnight's treatment. The value of this treatment in improving the nutrition of the muscles is also shown by the fact that there is no operator of long experience, no matter how fine he may think his arm, but can be improved twenty-five per cent. in speed and ease of operating by a dozen treatments. For the details of this method of treatment the reader is referred to the author's "Manual of the Use of Static Electricity in X-Ray and Therapeutic Uses."

Recovery from a Large Dose of Strychnin.—LEFFINGWELL (*Phila. Med. Jour.*, July 23, 1898) reports his successful treatment of a patient who had swallowed 10 grains of strychnin with suicidal intent. The period of time that elapsed between the taking of the poison at the beginning of the treatment could not be learned. The whites of eight eggs were given, and immediately afterward a large teaspoonful of mustard in a glass of water. This was followed up until the stomach had repeatedly emptied itself.

During this time three clonic spasms occurred, affecting the lower jaw, the upper extremities and anterior muscles of the trunk of the body, the lower extremities being wide apart and motionless. Sudden noises or voices, and only slight contact with any one around the patient, without his permission, would excite another attack; and the number of these during the eleven hours he was under treatment was about forty, lasting from ten to thirty seconds each.

Ice-water was given for the great thirst, and the patient was then allowed to inhale ether to control the convulsions. Bromid of potash was given in 20-grain doses at intervals of every half hour, and then of every two hours until 140 grains had been taken. Morphin sulphate was injected subcutaneously, ¼ of a grain every two hours, until the pain in the lower extremities was relieved and the threatened asphyxia passed over. After twelve hours of treatment it became evident that the man would recover, as the pains were much less, and he was able to draw up his lower extremities.

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OF MEDICAL SCIENCE.

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SATURDAY, AUGUST 20, 1898.

"THIS ARMY MUST BE MOVED AT ONCE OR PERISH."

SUCH is the startling announcement that came from the officers of the victorious army after the surrender of Santiago and finally aroused the authorities at Washington from their lethargic indifference to the fate of those gallant men. It came in response to an order to move the camps up into the hills where the exhausted and disease-stricken soldiers could be made as comfortable as the tropical rains and torrid sun and miasmatic climate would permit; while the transports which might be used in bringing them home were preparing to carry out to Porto Rico the politicians' friends for a holiday tramp across that innocent island. Almost simultaneously came the telegram from General Miles, "Do not send me any more troops," and the remonstrance of the Round Robin from General Shafter's officers, "This army must be moved at once or perish."

What more startling rebuke could be given to departmental incompetency, or what handwriting on the wall could say with more distinctness, "Thou hast been weighed in the balance and found wanting?" It is a fitting climax to the incompetency that landed the army in Cuba and abandoned it to its fate devoid of necessary medical and surgical supplies and the commonest commissary stores, and yet no one was responsible! Most glowing accounts appeared of the up-to-date preparations for caring for the sick and wounded—improved ambulance and hospital facilities, ingeniously compact delicacies for the sick, etc., and yet when the demand for them came almost nothing was at hand—a complete breakdown of the service, and no one responsible! Thousands of brave men who have done their duty valiantly in the face of the enemy incapacitated for want of proper food and shelter, and hundreds dying because of insufficient transportation and hospital facilities, and no one reponsible! Every National Volunteer camp in the country seriously afflicted with typhoid fever, and no one responsible!

Such shocking, such mortifying spectacles as the "Breakwater," the "Seneca," and the "Concho," aggravated later by the "Santiago," the "Comal," and the "San Marcos," bowing the richest, the most resourceful nation in the world in shame, and no one responsible! A large proportion of the suffering endured and death sustained by our soldiers, admitted on all sides as avoidable and hence, unnecessary, and yet no one responsible! A universal demand for an investigation and the fixing of the responsibility, and yet no investigation ordered! But come it will.

As Columbia says to Uncle Sam, "The *Government* must fix the responsibility or the Country will."

HOSPITAL REPORTS.

THE example set by three large hospitals of this country—the Johns Hopkins of Baltimore, the Massachusetts General of Boston, and the Presbyterian of New York, should have, as we believe it will, a larger immediate following. The presentation in well-printed form of unusual, interesting, or even of a series of ordinary cases, occurring in hospital services, fulfils a didactic purpose of no mean value. We are all too familiar with the hackneyed hospital report. It is a carefully compiled statement of how many pounds of candy Mrs. X. has sent to the children's ward, of how many religious journals have been donated to consume the time of convalescent patients, and of how many pillow-cases and nightgowns the Young Woman's Auxiliary Society has

given. It runs over with praise of every one connected with the institution from the governing board to the orderlies, while the medical and surgical work of the year is condensed into a few statistical pages.

We assume that such printed rubbish is essential to the well-being of hospitals, else the custom of giving it annual birth would long ago have ceased. Governing boards are learning, however, that every hospital is obliged to fill certain didactic functions, and when clinical teaching cannot be directly given, the publication by the medical board of reports such as that the Presbyterian Hospital recently issued, in part assumes this function, though somewhat vicariously.

The educational worth to the hospital interne of accurate record-making and the careful taking of histories, essential to a published report of cases, is important, too. It draws him away from hackneyed lines, it sharpens his powers of observation, and augments the value of his clinical experience in proportion to his native ability and the watchfulness of his superiors. Nor is the literary value of such efforts to be despised, a consideration for the future usefulness of internes trained to observe, to write, to teach.

The variety of subjects covered can be duplicated, we do not doubt, by any metropolitan hospital and by many such institutions, indeed, in smaller towns. Since the aggregate fund of hospital experience forms the basis of most teaching and of most medical knowledge, medical boards should feel it incumbent upon themselves to assist in the diffusion of medical learning by the systematic publication of the real medical and surgical work in their respective hospitals. We are far behind England, France, and Germany in this respect. Perhaps with our now advanced position among the nations of the world, we will improve in the matter of hospital reports, too.

THE TONSILS AS CHANNELS OF INFECTION IN TUBERCULOSIS.

A FEW years ago Dr. G. Sims Woodhead, in a very thoughtful and scholarly address, suggested, and in a measure proved, that tuberculous infection of the glands of the neck occurs frequently through the tonsils, especially in children living under unsanitary conditions and subject to various devitalizing influences. His investigations tended to show that the rôle played by the tonsil and the surrounding lymphoid tissue in antagonizing infection when its tissues are normal, and in facilitating infection when diseased, is more important than usually considered. Recently Dr. Hugh Walsham of London has busied himself with the same subject, and the results of his studies are embodied in an article in a recent issue of the *Lancet*. He made a careful examination of the tonsils and follicular glands at the base of the tongue of every subject of tuberculosis which came before him for post-mortem examination at the City of London Hospital, and he also examined a large number of tonsils and adenoid vegetations that had been removed by surgical operation.

In the vast majority of post-mortem cases there was no symptom during the life of the patient to call attention to the tonsils. Despite this, in twenty out of thirty-four subjects examined these glands were found to be tuberculous. The results of his examination of tonsils and adenoid tissue removed from living patients were entirely negative, as in no one was indications of tuberculosis found. Walsham believes that the view of so many pathologists and clinicians that the tonsils are almost immune from tuberculous disease, is absolutely untenable, and that these glands are very often affected. Whether the tubercle is often primary of the tonsil, as was suggested by Woodhead, cannot be determined with any degree of positiveness, for although it is sometimes primary, the tonsils are very frequently affected secondarily in persons suffering from pulmonary tuberculosis. Concerning the way in which the tonsils become affected, he believes that it may be from without, or in acute miliary tuberculosis through the blood stream. When the tonsils are tuberculous the cervical glands receiving the lymphatics from these organs are frequently affected with tubercle, but the follicular glands at the base of the tongue are rarely implicated.

One practical application of these studies seems very apparent, and that is, that disease of the tonsil, even though slight and apparently insignificant, may open up a highway to tuberculous infection which would otherwise be impregnable, for it is highly improbable that the bacilli penetrate the normal intact

epithelium lining the tonsillar crypts. It would be interesting to know, now that the tonsils have been shown to be channels of infection in tuberculosis, if statistics show that persons who have had partial or complete tonsillotomy are more susceptible, or less so, to cervical and intrathoracic tuberculosis.

ECHOES AND NEWS.

The Will of Dr. Pepper.—Dr. William Pepper left no public bequests. His will provided for a gift of $75,000 to the University of Pennsylvania, but a recent codicil revoked it.

Effects of Sanitation at Santiago.—The sanitary precautions taken since the occupation of Santiago by the United States forces, according to the latest reports, have reduced the average daily death-rate from 103 to 37.

A Cheering Cargo for the Invalids at Santiago.— The Auxiliary Cruiser "Yale" left New York recently for Santiago with a large quantity of commissary stores, including medical stores and delicacies. Among the latter were 1000 bottles of champagne, 5000 bottles of ginger-ale, 200 cans of malted milk, and 1000 cans of beef extract.

Michigan State Board of Health.—Dr. Arthur B. Reynolds, Health Commissioner of Chicago, in an address recently delivered at Detroit, said "It is not too much to say that the State Board of Health of Michigan has, in the language of our great classic in hygiene, Edmund Parkes, made growth more perfect, decay less rapid, life more vigorous, death more remote, for every citizen within the boundaries of this fair State."

A Bullet Successfully Removed from the Spinal Column.— Dr. F. D. Bird of Melbourne, Australia, gives an account in the *Inter-Colonial Medical Journal* of a patient treated by him for gunshot injury near the angle of the jaw. After the flesh wounds had healed, some cervical pain and stiffness of the neck on the left side were felt. A skiagram of the neck was taken revealing a foreign substance in the body of the axis. This proved to be a bullet, which was removed, the patient making a complete recovery.

New York Post-Graduate Medical School.— The seventeenth annual announcement of the New York Post-Graduate Medical School and Hospital, University of the State of New York, for 1898–99 has just been issued. It records 523 practitioners of medicine as in attendance upon its courses during the past year. They came from the various States of the Union and the Dominion of Canada. There were ten physicians from foreign countries, two of these being from India and one from Japan. Only 96 were from the State of New York.

Health of the Eighth Massachusetts Regiment.—Colonel Pew of the Eighth Massachusetts Regiment, stationed near Santiago, reports that his is the healthiest regiment in Cuba. It would be interesting to know what particular circumstances have brought about this condition. Have the soldiers of Col. Pew's command had less intercourse with the refugees than the men of other regiments? Have they had less experience in the trenches? Where have they been encamped; on the hills or near the coast?

The Physical Condition of Capt. Clark of the "Oregon".—Captain Charles E. Clark, commander of the battleship "Oregon," upon the report of the Board of Medical Survey, has been relieved of his command and granted a leave of absence. Captain Clark has broken down physically under the terrific strain to which he has been subjected during the last four months. The wonderful record made by the "Oregon" on that 15,000-mile voyage is generally conceded to be due to the efficiency of Captain Clark, although Chief Engineer Millikan is entitled to some of the credit.

Yellow Fever in Louisiana.—A fatal case of yellow fever was reported August 12th at Franklin, La. The Louisiana State Board of Health has quarantined the entire parish of St. Mary, and forbidden all railroad trains stopping there. The States of Texas and Mississippi have both quarantined against the parish. Surgeon-General Wyman promptly sent two Marine Hospital surgeons to investigate the report, remain on watch, and quarantine all suspicious cases. The reported case is supposed to have originated from the tearing down of a shed which became infected last year. The shed should have been destroyed by fire. If such is the history of the case no difficulty should be experienced in preventing any spread of the disease.

Chronograph Watches for Nurses.—The latest edition to the equipment of the trained nurse is a chronograph watch. These watches are especially made to enable trained nurses to accurately take the pulse of their patients. The moment the pulse has been taken, the large second hand can be instantly stopped by a slight pressure upon the stem of the watch. If there has been any uncertainty or fluctuation in the pulse, the second hand can be quickly thrown back to the starting point and the pulse re-taken without in any way interfering with the other mechanism of the watch. It is said that the first timing watch was made about fifty years ago and was called the "surgeon's pulse," which indicates that one of the present uses of the watch by physicians and nurses is really going back to first principles.

Immune Regiments for Santiago.—The fact that a number of men, who had survived an attack of yellow fever, enlisted and went to the front with the full assurance that they could face the dread disease with impunity, have been attacked with yellow fever, and some of them even died from it, has put a new phase upon the significance of the word immune. It is quite possible that life in a Northern climate so renovates the system after an attack of yellow fever as to interfere with the proper balance between the toxins and antitoxins, and so destroys the security against a second attack. If this

proves to be the case, it will be necessary to secure an immune army from the ranks of men who have continued to live in a tropical or semi-tropical climate after the first yellow-fever attack.

Compulsory Vaccination in England.—As a result of the recent epidemic of smallpox, which brought such distress upon the inhabitants of Gloucester, a bill making vaccination compulsory was introduced in the English Parliament. It was generally understood that the Government party was united and determined in its decision to pass the bill, but suddenly some move on the political checkerboard changed the whole aspect of the question, and an amendment was passed by the House of Commons which rendered the compulsory clause nugatory. This clause provides that "no parent or other person shall be liable to any penalty for violating the law, provided he satisfies two Justices in Petty Sessions that he conscientiously believes that vaccination would be prejudicial to the health of the child." This unexpected change of front on the part of the leaders of the Government party is thought to have been due to the Reading election which was going on at the time. The anti-vaccination party is strong in Reading; it is an important town, and the Government was anxious to retain the seat. Our sympathy goes out to the profession of England in its dilemma. We, on this side of the water, have had occasion to bemoan similar miscarriage in legislative sanitary measures and for similar reasons.

Personal Characteristics of the Late Dr. William Pepper.—It is said of Dr. Pepper that he rarely spent as much as six hours nightly in bed, and took the balance of his sleep as he needed it throughout the day. Short naps were his only relaxation, and sleep was to him as wine and was taken as readily. "Will you excuse me, Mrs. ———," he would say sometimes, "I could talk with you much more satisfactorily if I had a few minutes' nap. Nurse, make Mrs.——— comfortable and wake me in ten minutes." Ten minutes later, he would be aroused by the nurse and at once resume his conversation with the patient at the point at which he had dropped it. He would sleep in his carriage as he was driven from one appointment to another; he would sleep in the train, in a strange parlor or library, in private or public, absolutely indifferent to comment. "I have already seen the patient, gentlemen," he sometimes said to consultants, "I will not go in with you; just wake me when you have finished your examination." Dr. Pepper's brain was always at work. His valet and stenographer awoke him at 6.30 A.M., and he began hearing letters and dictating answers at once, his valet, meantime, dressing him. He dictated from his bath, while he was being dressed, at his breakfast, and sometimes for an hour afterward. In his consultation work, special railway trains were the familiar time-saving devices, and his familiarity and influence with railroad presidents enabled him to order them as he would cabs. Dr. Pepper was one of the most tactful men in dealing with patients. He sometimes kept three or four patients "in the air" at once, all sitting in his inner office, and each, under the power of his tact, as well satisfied as if he were given a private hearing.—*New York Herald.*

Quarantine Regulations for Cuban and Porto Rican Ports.—To expedite the movement of the transports bringing soldiers from Cuba and Porto Rico and to minimize the danger of their exposure to infection, Marine Hospital surgeons have been detailed for duty at Santiago and Ponce to enforce the quarantine laws, to issue certificates, and to perform other duties of sanitary or port inspectors. The system will be extended to other Cuban and Porto Rican ports as fast as they are acquired by the United States forces. At Santiago and every chief port where practicable, a receiving ship will be stationed for the reception of those who take passage for ports in the United States. This ship will be practically a detention camp and quarantine station, and passengers seeking homeward voyage are to be taken from the receiving ship after they have undergone a period of observation and disinfection of baggage. This precaution, together with the placing of a Marine Hospital surgeon in charge of every transport bringing soldiers from the front, will render unnecessary such vexatious delays in quarantine as have recently been imposed on the vessels conveying wounded and convalescent men to the United States, as the disinfection of the transports will not then be required. Secretary Alger has issued the following order on the subject: "All sanitary matters pertaining to the condition of transports and crews are to be placed under the jurisdiction of the medical officers of the United States Marine Hospital Service. Every vessel engaged in the transport service between the United States and Cuban or Porto Rican ports is to carry a medical officer of the army or of the Marine Hospital Service, whose duty shall be that of sanitary inspector of the vessel, and who shall see that in a foreign port no material or person is taken aboard liable to convey yellow fever; to keep the crews of the transports under surveillance, and on the return voyage act as sanitary inspector."

Duties of Marine Hospital Surgeons on Transports.—Surgeon-General Wyman of the Marine Hospital Service has issued the following instructions for the guidance of Marine Hospital surgeons detailed for duty on army transports: "Your duties are primarily to keep the transports from becoming infected. At the foreign port the crews must be forbidden and prevented from going ashore; everything brought on board from shore must be inspected, and, if doubt exists, rejected or disinfected. All persons coming on board at foreign ports must be inspected at the gangway. Vessels must lie off the shore and not go to dock. Certificates from medical officers of the Marine Hospital Service on duty at Santiago and other ports should be accepted. If troops are brought on board, obtain certificate from responsible medical officer of the army of freedom from infection. No passengers should be allowed on board except on written order of the commanding general (see correspondence on this subject with War Department, copy herewith inclosed). If a transport brings back sick or wounded soldiers the latter are under the care of the medical officer of the army detailed for this

purpose. For their treatment, medical supplies, etc., the Medical Department, United States Army, is responsible. The crews of the vessels, however, are under your professional care, and a supply of drugs, etc., has been sent you for this purpose. If, however, you are called on by the proper authority for assistance of the sick or wounded soldiers, you are authorized to render it. In absence of a regular medical officer of the army you will, of course, render such assistance as the ordinary dictates of humanity demand. Look carefully after water-supply. Keep accurate notes and furnish such certificate as you are able to give to the quarantine officers at the port of arrival in the United States. Transmit reports to bureau on arrival in home port. At Santiago and other ports you will communicate with the medical officer of the Marine Hospital Service in command, and will receive and obey any reasonable order from him. Disinfectants will be furnished from the bureau on requisition as soon as practicable, but if for any reason purchase is necessary, the officer may purchase in accordance with the regulations of the Marine Hospital Service. These instructions will be amended or added to hereafter, and if for any cause it is impracticable or impossible to enforce them, the officer must carry out their spirit, if not their letter, to the best of his ability, and then report the facts to the bureau." The medical officers on duty on the army transports have been furnished with necessary outfits, and to those at Santiago steam chambers, boilers, sulphur furnaces, generators, and a large quantity of disinfecting material have been forwarded.

New York State Medical Association.—The regular annual meeting of the New York State Medical Association will be held at 64 Madison avenue, New York City, on October 18, 19, and 20, 1898. The following is the preliminary program: "A Practical Demonstration in the Reduction of Infantile Mortality," by Dr. E. F. Brush of Mount Vernon; "The Pneumogastric Nerve in the Production of Stomach Disease," by Dr. Julius Pohlman of Buffalo; "The Coccyx," by Dr. J. E. Walker of Hornellsville; "Drugs *versus* Cardiac Insufficiency," by Dr. O. T. Osborne of New Haven; "The Passing of Alcohol," by Dr. J. M. Farrington of Binghamton; "A New Method of Amputation at the Knee-joint Applicable in Cases of Senile Gangrene of the Foot," by Dr. Stephen Smith of New York; "Anthropological Rambles in the Orient, Especially in the Island of Java; Profusely Illustrated with Stereopticon Views," by Dr. H. Ernst Schmid of White Plains; "Dental Pathology in Its Relationship to General Health," by Dr. Dwight L. Hubbard of New York; "Subnormal Temperature," by Dr. Leroy J. Brooks of Norwich; "Ancient and Modern Animal Products Used as Medicines," by Dr. T. J. Acker of Croton-on-Hudson; "The Treatment of Cases of Pulmonary Tuberculosis That Cannot Go Away from Home," by Dr. Delancey Rochester of Buffalo; "Some Observations of General Interest Regarding the Course and Management of Cataract," by Dr. J. H. Woodward of New York; "Technic and Use of Saline Infusion," by Dr. Thomas F. Reilly of New York; "What to Do to Be Saved, Being the Conclusion of the Inquiry into the Abuse of Medical Charity," by Dr. Thomas J. Hillis of New York; "True and False Medical and Other Charities," by Dr. Wickes Washburn of New York; a paper by Dr. Charles Phelps of New York, title not yet announced; "Genital Neuralgia and the Genito-reflex Pains," by Dr. F. P. Hammond of New York; "Lantern-Slide Exhibition," by Dr. S. Alexander of New York; "A Case of Attempted Obliteration of the Deformity in Pott's Disease," by Dr. Charles Allen Tuttle of New Haven; "Notes on Neuralgic Affections of the Head," by Dr. Gustavus Eliot of New Haven; "The Use of Catgut Sutures in Ventrofixation of the Uterus," by Dr. J. E. Janvrin of New York; "Traumatic Tetanus—Report of a Case Following an Attempted Operation, Treatment, etc.," by Dr. Z. J. Lusk of Warsaw; "Some Thoughts on Rational Treatment of Disease," by Dr. Chauncy P. Biggs of Ithaca; "Senility," by Dr. F. W. Higgins of Cortland; "A Case of Extra-uterine Pregnancy Operated upon at Term," by Dr. Eli Van deWarker of Syracuse; "Memoranda," by Dr. H. D. Didama of Syracuse; "Diagnosis and Surgical Treatment of Renal Calculus," by Dr. N. Jacobson of Syracuse; "Eye Lesions in Some Diseases of the Kidney," by Dr. H. S. Oppenheimer of New York; "Insanity Following Surgical Operations," by Dr. W. D. Granger of Bronxville; "Dermoid Cysts of the Ovary," by Dr. C. E. Fritts of Hudson; "The Operative Cure of Inguinal Hernia in Men," by Dr. E. D. Ferguson of Troy; "Urethral Stricture," by Dr. J. W. S. Gouley of New York. A discussion on intestinal obstruction comprising the following papers: "Introduction," by Dr. Parker Syms of New York; "The Causes of Acute Intestinal Obstruction, with the Description of Their Mechanism," by Dr. E. D. Ferguson; "The Causes of Chronic Intestinal Obstruction, with a Description of Their Mechanism," by Dr. J. D. Bryant of New York; "Intestinal Obstruction Due to Impaction of Feces, Gall-stones, Foreign Bodies, etc.," by Dr. J. W. S. Gouley; "The Diagnosis and Indications for Treatment of Acute Intestinal Obstruction," by Dr. J. D. Rushmore of Brooklyn; "The Diagnosis and Indications for Treatment of Chronic Intestinal Obstruction," by Dr. Leroy J. Brooks; "Intestinal Obstruction Due to Intussusception and Volvulus," by Dr. John F. Erdmann of New York; and "The Technic of Operative Treatment of Intestinal Obstruction," by Dr. Frederick Holme Wiggin of New York.

CORRESPONDENCE.

MUCOUS-MEMBRANE ERUPTION IN MEASLES.

To the Editor of the MEDICAL NEWS.

DEAR SIR: I read in your issue of June 25th, on page 818, an article called "Koplik's New Sign of Measles," and, also, Dr. A. L. Hall's comment thereon in the MEDICAL NEWS of the 23d ult., on page 122, with considerable interest. I am fully in accord with Dr. Hall's observations with regard to the sign not being very new for I have made use of it in almost all of my cases during the past eight years. I do not recall ever having seen it

mentioned in print before, but because of its great frequency I have no doubt that many physicians have observed and recognized its value.

I have a record of one case where this sign was present forty-eight hours before the skin eruption appeared and because of it I made a positive diagnosis of measles. I consider it the very earliest absolute sign of measles.

This difference from Slawyk's report I must make: I find the eruption located first on the mucous membrane about the junction of the soft with the hard palate on the roof of the mouth. I have observed it at this point when nowhere else, and in about ninety per cent. of all my cases. The average time of its appearance before the skin eruption was about twelve hours.

Respectfully,

EMMERT C. STUART, M.D.

PITTSBURG, PA., August 15, 1898.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

CERTAIN FORMS OF SORE FEET IN SOLDIERS AND RECENT REPORTS OF GERMAN MILITARY SURGEONS —NO FOREIGN SCIENTISTS PERMITTED AT THE CONGRESS OF POLISH NATURALISTS AND DOCTORS —A CASE OF GIGANTISM IN A CHILD AGED FOUR YEARS—TUBERCLE BACILLI AND THE PRODUCTION OF HEART LESIONS.

BERLIN, August 9, 1898.

A RECENT number of the *Deutsche Medicinische Wochenschrift* reviews three articles that have appeared within the last year on that indefinite condition swelled foot or edema of the feet, that so often occurs in people, like soldiers, who are much on their feet and have in addition suffered from slight accidents. The articles are all from military medical men who have made special studies of the subject and of late have called the Röntgen-rays to their aid in the matter. One of the articles I called attention to some time ago in this column, but circumstances seem to invite more special attention to it just now. All three of these surgeons have found that these foot conditions which are apt to be set down simply as sprains, and really make up the vast majority of the cases that are entered in case-books under the indefinite head of sprained ankle, are really due to fractures of the metatarsal bones. In certain cases the line of fracture can be distinctly seen in the Röntgen photographs, though in many it cannot. In some even after the healing the callus is visible in the same way. Kirchner reports fifty-five cases of the condition in all of which some characteristic symptoms of fracture could be demonstrated when it was carefully looked for. He considers that in all of these cases in which, after slight injury, a turn on the foot, a misstep, sometimes the failure to notice a step, or the like, edema of the foot develops, with tenderness when the foot is used, the underlying pathological condition is a metatarsal fracture. The treatment is, of course, rest and then firm support that practically immobilizes the metatarsal joints afterward. He warns especially against meddlesome massage and attempts to reduce the swelling in the early stages and overcome the stiffness that is Nature's protective mechanism, during the progress of the cure, by manipulations of the foot. Such misdirected efforts lead to the development of that chronic soreness so often seen as a sequel in these cases, and which may persist as a torture to the patient for the remainder of life.

The German government has evidently taken to heart the lesson furnished by the results of the *laisser-aller* policy of the Austrian government in the matter of Slavish agitation. The eighth annual meeting of the Polish Naturalists and Doctors was to have been held at Posen in the German province of the same name, from the 1st to 4th of August. It was announced that a number of Czechish and Russian scientists and medical men were to be present and there was an evident purpose to rival by anticipation the German Congress of Naturalists and Physicians to be held at Dusseldorf the beginning of September. Recent events in Austria and the tone of certain Polish, and especially Czechish journals, seemed to indicate that the occasion was to be made use of as a sort of love-feast for the Slavs—a family reunion of the branches of the race, at least as regards its scientific and medical men.

Any such purpose the German government of course considers as liable to be subversive of the peace that has always reigned in the Eastern German provinces between the Germans and Slavs, despite the considerable number of the latter that are there. They had before their eyes the warning example of a Slavish Congress held in Prague some months ago, in which the Russian representative, a little flushed with generous wine perhaps, stated in no dubious terms the purpose of the Slavs to have their revenge for their centuries of subjection to German sway. The attendance of foreign scientists and medical men at the Congress at Posen was, therefore, officially forbidden by the police president of the Province. The Committee of Arrangements of the meeting protested against this decree. They pointed to the fact that the Congress had been held in Posen some years ago, and, without any such uncalled for regulation, had simply and faithfully devoted its time to the scientific purposes for which it meets and that there had been no political agitation. The protest did not avail, however, despite the fact that the committee pointed out that invitations had been already sent to certain foreign scientists and accepted by them, there having been no question in the mind of the committee of possible discourteous interference on the part of the police in a purely scientific matter. The police president reasserted his belief in the purpose of the meeting to serve certain political ends and refused to lift the ban against foreigners. As a result, the Congress was not held at all. So closes for the moment another phase of *the* question of Central and Eastern Europe, the Slavish and German. It crops up now in every relation between the two people, political, linguistic, social, commercial, and has even invaded science. The new-born race self-consciousness of the Slavs, which is drawing together these people in Central Europe, makes a most interesting phase of later ethnology, elements that were supposed to be (that have been in the past) infinitely repellent, have under the subtle magic of this new force somehow changed what was considered their inherent polarity and exhibited at-

traction instead of repulsion. The Poles and the Russians were supposed to be inveterates irreconcilable enemies. The Czechs were a despised branch of the family, for whom the other two had no consideration, though the keynote of their relations with them would undoubtedly have been opposition had they considered it worth the while to have any relation. Now these are the three who sit down at the council board together to discuss German decadence and Slavish advance.

Meantime, if what seems a natural force is to be retarded in its progress, this immediate interference of the German police at the first suspicion of the introduction of the Slav agitation into the German empire will have its effect. Natural forces have, however, a way of surmounting artificial barriers that is not always complimentary to self-conscious human acuity. Mrs. Partington was once quoted in the British Parliament as having been an excellent hand with a mop, but when the Atlantic Ocean kept coming in under the door-sill her cunning with that very useful remover of nuisances did not avail much. One is tempted to wonder whether even a paternal German government, in which imperialism is the watchword, will be more effective against this natural force that has been gathering strength in the obscurity of centuries and now presents one of the most interesting natural phenomena at work in our own time that history has ever presented.

Dr. Michaelis, Professor Von Leyden's assistant, who has been able to demonstrate the gonococcus several times on the heart valves in gonorrheal endocarditis, found some time ago tubercle bacilli in cardiac vegetations in certain cases of tuberculosis, either acute or with the acute exacerbations indicating that at some time the bacillus was in the circulation. The question arose whether the bacilli were only coincidently present in the vegetations, as a consequence of their presence in the blood current at a moment when their imprisonment was favored by some concomitant diseased condition of the valves, or whether they really played an etiological rôle in the production of the vegetations.

Working under Dr. Michaelis' direction in Professor Von Leyden's laboratory, Dr. Blum of San Francisco has been able to demonstrate, experimentally, that the tubercle bacilli are an active factor in the production of the valvular vegetations, and Dr. Michaelis reported the observations and demonstrated the specimens at the last meeting of the Verein für Innere Medicin. The aortic valves in rabbits were injured by the insertion of an instrument through the carotid and then tubercle bacilli were injected into the circulation. When the animals were killed some weeks later, in certain cases vegetations were found on the valves at the injured parts, in which a pure culture of tubercle bacilli could be demonstrated. The experiments are taken to prove that valvular lesions may be the result solely of tuberculous infection, a question which has hitherto been in dispute.

An interesting case of gigantism in a child of four was presented before the Association of Attendant and Resident Physicians of the Charité Hospital (Charité Arzte), Berlin, at a recent meeting. The child has the stature and the weight of a child of seven or eight years. Between the first and second year, after a normal development, there occurred a series of epileptiform seizures. After a time these remitted and the child became seemingly healthy. Then about a year ago it became irritable, afterward subsiding into a state of lethargy for a time. Since then the abnormal development has taken place. This affected all parts about equally so that the child looks symmetrically developed but is about twice its normal size. The penis and scrotum is particularly developed and constitute the only appearance there is of acromegaly. There are symptoms present of a tumor at the base of the brain, choked disk, eye muscles palsied, etc., and it is concluded that there is a neoplasm in the hypophysis. The question that came up for discussion was whether this should be considered a preliminary stage of acromegaly. Many reports of cases of gigantism in children shows that typical acromegaly has developed after puberty, and it is generally considered that the two are analogous processes at least. Professor Heubner and Professor Gerhardt were undecided in the matter.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

Sixty-sixth Annual Meeting, Held at Edinburgh, July 26, 27, 28, and 29, 1898.

(Specially reported for the MEDICAL NEWS.)

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

(Continued from page 223.)

THIRD DAY—JULY 29TH.

DR. R. C. BUIST of Dunblane read a paper, reporting

TWO SYMPHYSIOTOMIES.

In the first case the woman's first child had died in labor; the second labor was a difficult forceps case and the child died; in her third pregnancy labor was induced at 7½ months and the child lived sixteen hours; in her fourth pregnancy the author adopted Franck's method of permanently enlarging the pelvis. Labor set in prematurely a week after the operation, and after twelve hours she was delivered with forceps. The child only lived about two weeks, but the pelvis permanently healed with greatly increased dimensions.

The second patient was not seen until she had been in labor two full days. The os was dilated to about the size of the palm, but the head was fixed at the brim of the pelvis. Under chloroform, symphysiotomy was performed by the subcutaneous method, the forceps applied, and the child easily delivered. The child weighed 8½ pounds, and is now alive and well. In less than three months the mother was at work in a jute mill. The symphysis is still freely movable.

DR. AMAND ROUTH of London read a paper on

TREATMENT OF CYSTOCELE.

Cystocele may be primary or secondary; secondary in procidentia and prolapse of the uterus, and primary when, in labor, the anterior vaginal wall is stretched and the bladder is not drawn up out of the way, and more com-

monly when the membranes have ruptured before the cervix is fully dilated. Treatment by pessaries is usually first tried, but if the cystocele is primary they do little good. The writer then spoke of an operation which he had found useful; the cervix is drawn down and a transverse incision made; then the bladder is stripped off from the front of the uterus and anterior vaginal wall; a vertical incision is made toward the urethra, and the side flaps are allowed to overlap; then the redundant tissue is cut off, some from in front of the transverse incision and some from the sides; two points from the sides are brought down by sutures and sutures passed in both directions so that the vaginal wall is shortened laterally and anteroposteriorly.

PROFESSOR SANGER of Leipizg said that he makes a median incision and then cuts off the side flaps and closes with a continuous suture. He does not think that an anterior operation is enough, for there is always a tear in the perineum which must be repaired.

DR. SMYLY of Dublin read a paper on

EXTIRPATION OF MYOMATOUS UTERI BY THE VAGINA.

He mentioned some of the indications for operation on myomata, such as pressure upon some organ, especially the bladder or uterus; rapid enlargement, especially in a young woman; suppuration, sloughing, edema, pain, hemorrhage, and cases in which the woman is incapacitated from earning her living. He gave the following reasons why the vaginal method is preferable to the abdominal in suitable cases: the mortality is less, shock is less marked, convalescence is more rapid, and there is no abdominal wound. He had performed the operation seventeen times with only one death, and in that case the myoma had suppurated, but the condition was not suspected until the growth was cut into and the putrid matter escaped; the patient died of septicemia. He used Dr. Doyen's method of morcellation, and thought it a good operation for that class of cases in which the adnexa were to be removed. The nervous symptoms of the patient are less severe after removal of the uterus and ovaries than after removal of the ovaries alone.

DR. J. FARRER of Gainsborough read a paper on

A NEW AND SPEEDY METHOD OF DILATING A RIGID OS IN PARTURITION.

He told how he had discovered the method while attending a primipara. For forty-eight hours the os had been thin, rigid, and unyielding; he had attempted to dilate it with his fingers and with a mechanical dilator, with and without chloroform, but had failed. At last he decided to incise the os, and, the patient being too much exhausted to stand chloroform, he applied a ten-per-cent. solution of cocain to the os as a local anesthetic; at the end of four minutes he found the os fully dilated and as soft and flexible as a rubber band. Thinking that the cocain was the cause of the relaxation, he had tried it several times since, always with the same results.

DR. JARDINE of Glasgow said that he had tried this method several times, using 2-grain cocain suppositories, but had always failed.

DR. A. DONALD then read a paper on

VAGINAL SECTION.

He said he employed the term "vaginal section" to imply the opening of the abdominal cavity, or gaining access to the organs therein, through the vagina. During the last six years he had performed this operation fifty-nine times for exploratory purposes, treatment of pelvic abscess, ectopic pregnancy, and myomectomy and ovariotomy. In thirty cases the incision had been anterior and in twenty-nine it had been posterior. The points in its favor are: absence of shock, less risk of septic peritonitis, less likelihood of getting pus into the peritoneal cavity, and a quicker recovery and better convalescence. In cases in which the uterus is fixed by adhesions and there is a long, narrow vagina it is better not to attempt vaginal section. His mortality had been six per cent., and half of these subjects would have died of the disease in a short time.

MR. C. MARTIN of Birmingham read a paper on

CONSERVATIVE SURGERY OF THE OVARY.

He said that the physiologic value of the ovaries could be best realized by noting the effect on patients in whom both glands have been removed. The patient becomes sterile, menstruation ceases, atrophy of the vulva, vagina, and uterus takes place, nervous symptoms appear, and there is a tendency to obesity. If only a portion of the gland is left behind the nervous symptoms do not appear, and for this reason an attempt should be made to save a part of one ovary if possible. An exception is in the case of sarcoma of one ovary; here both organs should be removed because the disease is likely to recur in the other ovary. He spoke of the value of ignipuncture in cystic disease of the ovary and chronic ovaritis; he had tried it in fourteen cases, with seven certain cures, and in one case the woman, who had been sterile before, became pregnant three months afterward.

DR. A. LAPTHORN SMITH of Montreal read a paper on

THE BEST OPERATION FOR THE CURE OF DISPLACEMENTS OF THE UTERUS.

The conclusions to which the author had come were based, first, upon his own personal experience of 111 ventrofixations, and 89 Alexander operations; second, upon the experience of forty first-class operators, Fellows of the American Gynecological Society, who had among them performed about 2500 ventrofixations or suspensions of the uterus, and third, upon his recent visit to the leading gynecologists of Europe, whom he had seen performing vaginal fixation. His own experience with Alexander's operation had been all that could be desired—no difficulty in finding the ligaments, no hernia, only one relapse, and no trouble in subsequent labors. With ventrofixation the cases had been much more serious because he had only performed it when there were diseased tubes causing fixation of the uterus. One patient had died, one had relapsed, one had a hernia, two had miscarried, and three had had normal labor; in seven cases a buried stitch had required removal subsequently. Out of the cases reported by other operators, above mentioned, there had been 146 pregnancies, in 36 of which there had been pain, miscarriage, or difficult labor, requiring obstetric

operations, and two or three women had died. Most of these operators had abandoned fixation, and now perform suspension by stitching the round ligaments to the abdominal wall. As a result, however, of what he had recently seen on the Continent, he would now abandon Alexander's operation, ventrofixation, and ventrosuspension, and treat all these patients in future by vaginal shortening of the round ligaments, which had the following advantages: (1) It is very easy; (2) it can be done very quickly; (3) it should have no mortality; (4) it is free from subsequent pain; (5) it will do as well for cases of retroversion with fixation as for those in which the uterus is freely movable; (6) it does not interfere at all with subsequent labors or pregnancies; (7) it does not leave any painful wound or unsightly scar, women being more willing to have an operation done in the vagina than on the abdomen.

SECTION IN MEDICINE.

FIRST DAY—JULY 27TH.

DR. GEORGE W. BALFOUR, President of the Section, delivered the opening address, his subject being

PERSONAL EXPERIENCE OF AN ALMOST FORGOTTEN EPISODE IN MEDICAL HISTORY.

He said, in part: "There are not many now living who remember the time when blood-letting was the panacea for almost every ailment; when patients could no longer be safely bled, they were leeched or cupped. There must be, however, survivors of the time when it was taught that in complicated pneumonia much confidence was to be placed in blood-letting, and that the only essential factor of the prognosis was the day of the disease on which the treatment was commenced. This treatment sometimes failed when delayed more than two or three days from the commencement of the disease. Such were the earliest lessons in medicine that I received, lessons which were daily exemplified in the wards of the old Royal Infirmary.

"Within a year of my graduation, I made my way to Vienna with the view of studying homeopathy. At first, I occupied my time in improving my knowledge of percussion and auscultation under the world-renowned Skoda. You may imagine my astonishment when I found that in his wards the severest cases of pneumonia were treated with poultices and regulated doses of extractum graminis (hay tea), and nothing else, unless much pain was complained of, when a few grains of Dover's powder were superadded. It was truly astonishing to behold in bewildering amazement a pneumonia melting away under the magic influence of a decillionth of a grain of phosphosus, but it was indeed a *reductio ad absurdum* to find this magic influence emulated by the virtures of hay tea and to be told by Skoda that pneumonia was a disease that tended not to dissolution but to resolution.

"HAHNEMANN raised to a paramount position one of the many theories advanced by Hippocrates, and enunciated the doctrine that by it alone could disease not only be cured *tuto, cito, et jucunde*, but silently and at once extinguished. In this respect homeopathy was the Eighteenth-Century analogue of our returning antitoxin treatment. Fortunately, the excellent results obtained by Skoda with the hay tea sufficed to dispel the cloud of mysticism evolved by Hahnemann and his school, while the success of Dietl in the same class of cases in another hospital with simply *aqua colorata* showed that there was no specific even in hay tea, and confirmed the conclusion that pneumonia tended not to dissolution but to resolution, and that the large blood-lettings thought necessary for its treatment were to say the least, uncalled for.

"Upon my return from Vienna I read to the Medico-Chirurgical Society of Edinburgh a report of what I had observed in the wards of Skoda, with the account of 392 cases of pneumonia treated on what might be termed expectant principles. I pointed out that the Vienna cases were certainly not less sthenic than those in Edinburgh; and they had the disadvantage of being daily auscultated, discussed, percussed, and lectured over, and that they had not the advantage of having been freely bled, yet their mortality was only 13.7 per cent. My words fell on deaf ears, and the conclusion arrived at may be very well summed up in the words of one of the ablest physicians of the day—Dr. John Gairdner: 'Nothing was better established than the good effect of blood-letting in Edinburgh, whatever might be the case in Vienna.'

"After this, we had a war of opinions in regard to whether the difference in results was due to the better knowledge of the natural history of the disease, and of its pathology, and to the actual change in the type of the disease, which no longer required the same heroic remedies.

"We are now on the threshold of new discoveries and of quite a new pathology, which seem destined to become of the highest importance for the well being of mankind. It is well, however, in the light of the past, to remember that diseases may be recovered from under many different forms of treatment. The practical certainties of our art in all ages have been sufficient for the welfare of mankind. We must be careful never to subject ourselves to any vague ideas of what may possibly be curative, but hold to that which is the paramount object of our art—the relief of suffering."

DR. JAMES GRANT remarked that in Canada venesection, while rarely practised is, nevertheless, still in use.

DR. ALEXANDER JAMES opened the discussion upon

CLINICAL VARIETIES OF HEPATIC CIRRHOSIS,

considering both the clinical and the pathological aspects of the disease, laying particular stress upon the latter. The point of chief interest brought out by the discussion was the prevalent opinion that cirrhosis of the liver is not to be laid so much as formerly to the door of alcoholism and dietary indiscretion. Dr. Allison maintained that while alcohol predisposed, another factor in causation must be found. Dr. Osler said that sight should not be lost of certain forms due to bacterial invasion, and he read in this connection a paper by Dr. Adami of Montreal upon the bacteriology of progressive cirrhosis. He later exhibited slides illustrating the remarks made. Professor Rosenstein of Leyden gave it as his opinion that in Holland, at least, so much stress as in the past should

not be attached to alcohol as a positive factor. Professor Gerhardt referred to the occasional occurrence of phosphorus poisoning in this connection, and Dr. Drummond and others called attention to cirrhosis occurring with enlarged spleen and pseudoleukemia.

SECTION IN SURGERY.

FIRST DAY—JULY 27TH.

The proceedings of the Section in Surgery were opened by an address upon

MODERN OPERATING-THEATERS,

by the President of the Section, DR. JOHN DUNCAN of Edinburgh. He prefaced the subject of his remarks by a brief description of the advance that has been made in medical teaching in Edinburgh during the past forty years, laying special stress upon the examination system so-called. Formerly examinations were meant to eliminate the useless; now, they dominate the teaching. Among the examiners, the doctrine is inculcated that a candidate for a medical diploma is not a finished practitioner familiar with every side light and detail, but the chief business of the teacher is to make men think, and of the examiner, to find out how far that has been successful. Clinical teaching has come to the fore, and what is practicable receives the most attention. Laboratories and museums are now attached to every department in our new university buildings and in the associated schools. The antiseptic system of surgery has opened so wide a field to the young surgeon and the clinical material has become so abundant that arrangements are being made whereby a surgical theater shall be placed at the disposal of each set of wards. The glorification of mere manual dexterity in surgical work has greatly diminished. If one knows what to do there is little difficulty in doing it. A surgical operation, therefore, has come to be regarded as an incident in a case, and the operating-theater has become an appendage to the wards.

The speaker said he was not of those who have great faith in surgical upholstery. The expense of transforming cleanly and well ventilated theaters into structures of tiles and glass is unnecessary. It may be said that it is all in the right direction, but some consideration should be given to the desirability of expending the money of a charity in costly reconstruction. Smooth and impermeable materials are not necessarily those which are most easily rendered aseptic. A good wooden floor can be made antiseptic and as satisfactory as its modern substitute. The emanations from spectators, from the operator and his assistants are more dangerous than those from the walls and floor, and the time may come when the patient, surgeons, and assistants, having been rendered from top to toe cutaneously aseptic, will cover each orifice of the body with an antiseptic mask, and, clothing themselves in a raiment scientifically pure, shall pass into an atmosphere freed from germs by the air-pump and by heat. Our ingenuity need not be directed to the condition of the air which may be trusted to efficient ventilation and the germicidal action of the tissues. It would be unfortunate if in cases of antiseptic failure the surgeons should be led to seek in unfavorable surroundings a loop-hole from escape of self-blame, or to believe that he cannot operate with perfect success save in a glass case or a crystal palace. The skin, the instruments, and the apparatus are the true objects of our care.

The use of electricity in surgery is undoubtedly extending. In the matter of lighting, there are surgical operations and investigations which cannot be satisfactorily accomplished without it. The surgical value of rendering the body diaphanous by the Röntgen-rays has been amply proved. The electric cautery has this advantage over others that it can be placed in position before being heated. The speaker had preached in season and out of season the surgical uses of electrolysis, but he felt assured that even now it does not meet with the appreciation it deserves. In cirsoid aneurism no other treatment can be compared with it for a moment. In nevus, especially, when it is desirable to avoid a scar, there is nothing so sure and so safe. It does excellently in some forms of agioma; it gives good results in goiter; it is an efficient depilatory.

PROFESSOR BENNETT of Dublin in opening the discussion upon

INJURIES OF THE ELBOW-JOINT,

called attention to the ease with which an incomplete dislocation of the ulna and radius backward might escape detection, and to the fact that in compound separation of the lower epiphysis of the humerus the elbow-joint is not opened because the lower end of the diaphysis is torn out of its periosteum, and thus the ligaments attached to the other end of the humerus are not ruptured. He illustrated the chief point in his paper by a diagram that in fractures at this point it is the lower end of the humerus which is injured, and not the process of the ulna. It is difficult to give a clear idea of this, but it may be said that the broken pieces slip from their places and prevent a proper reduction of the fracture. The removal of a part of the ulnar process is, therefore, not indicated, and attention should be directed to the humerus following whatever method may be indicated by the use of the X-rays.

DR. ROBERTS of Philadelphia read the next communication, which gave rise to much diversified criticism. He advocated, in fractures of the lower end of the humerus, fastening the fragments together with metal nails in cases in which there was any difficulty in keeping them in good position, and he further advised the adoption of the extended position in putting up the limb in splints after any injury of the joint. Professor Chiene expressed himself in favor of the flexed position except in cases of separation of the olecranon, or when the patient was kept in a recumbent position. Mr. Keetley held an opposite view to Professor Bennett's as to the reason why the elbow-joint was not attacked by septic arthritis in cases of compound separation of the epiphysis at the lower end of the humerus, and said that the elbow-joint is not usually opened.

MR. JORDAN LLOYD of Birmingham stated that the dislocation of the elbow is a rare injury, and that sep-

aration of the lower end of the humerus is much more common; an anesthetic is necessary in order to make a satisfactory diagnosis in many of the cases. Force applied to the olecranon may easily cause fracture of the humerus. Opinions differ as to the best position, but few men are ready to accept the procedure advocated by Dr. Roberts—nailing together the fragments.

In a discussion following the reading by MR. BUSH of Bristol of a paper reporting two cases of gastric ulcer treated by sponging out the peritoneal cavity and suturing the ulcer, the general opinion was advanced by other speakers that thorough irrigation is the only method worthy of recommendation in this connection.

In the second day's session of the Surgical Section, SIR WILLIAM STOKES of Dublin spoke upon the operative treatment of exophthalmic goiter, in the course of which he stated that in these operations the thyroid gland requires most careful handling in order to prevent rupture of the follicles and consequent absorption of the secretion into the general circulation with acute systemic poisoning. The striking point in the method advocated by him is treatment by the open method, the gland substance being allowed thus to dessicate in the process of healing, while a sufficient portion remain to carry on its function. Professor Kocher of Berne, an expert in this department of surgery, gave a qualified sanction to this method.

(To be continued.)

REVIEWS.

BRIEF ESSAYS ON ORTHOPEDIC SURGERY. Edited by NEWTON M. SHAFFER, M.D., Surgeon-in Chief to the New York Orthopedic Dispensary and Hospital, etc. New York: D. Appleton & Co., 1898.

THIS is a collection of six articles attempting to define the scope of orthopedic surgery, the author taking the ultra-conservative position of subordinating all operative interference to most prolonged trials of the various mechanico-therapeutic devices at our disposal. Such a limitation of this special department of surgery has been rightly contested. The orthopedist would sacrifice none of his individuality of being in a class by himself if he judiciously and impartially applies the principles of operative surgery together with mechanico-therapeutics.

PROCEEDINGS OF THE SEVENTH ANNUAL MEETING OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES. Edited by JAMES E. PILCHER, M.D., Captain in the Medical Department of the United States Army. Columbus, O.: Berlin Printing Co.

THIS report contains a number of articles which are of almost as much interest to the civilian surgeon as to his "brother in arms." The work of the Association was divided into subject-groups, which will indicate the scope of its influence and aims. Among these groups we note the subjects, "Naval Hygiene," "Military Personal Identification," and "Clothing and Accoutrements." Under the latter heading we must make special mention of a very able and interesting demonstration of "Accoutrements for the Infantry Soldier," by Deputy Surgeon-General W. S. Oliver, British Army Medical Department. There are valuable contributions on military physical training, transportation of the disabled, and sanitary work in the National Guard. The volume is a model of press work, and bears the seal of the Association in gold on its simple green cover.

MANUAL OF OPERATIVE SURGERY. Edited by H. J. WARING, M.S., M.B., B.S.C., F.R.C.S., Demonstrator of Operative Surgery and Surgical Registrar, St. Bartholomew's Hospital, London, etc. New York: The MacMillan Co., 1898.

CONTRARY to the plan of other manuals on operative surgery, the author at once introduces the student to the more formidable operations on the gastro-intestinal tract, thereafter passing on to the consideration of minor operations. Such methods may be obligatory in teaching operative surgery on the cadaver when the anatomical material is limited, but a text-book is the place for a logical consideration of surgical technics and the order should be from the simple to the complex.

The introduction deals briefly with the preliminary steps to operations. The list of operations is very complete and the descriptions are concise and are amply illustrated. Preceding each operation are the indications calling for its performance.

In the description of gastro-enterostomy it is not stated whether the anterior (Wœlffler) or the posterior (Von Hacker) method is to be followed. Throughout the description of operations on the pelvic viscera the invaluable assistance rendered by the Trendelenburg position is not brought forth. A description of internal urethrotomy is lacking. A little more attention might have been given to tenorrhaphy. We deprecate the use of so formidable an instrument as Belocq's canula in tamponing the posterior nares: a catheter will answer the purpose better.

The purpose of the reviewer in noting these slight shortcomings is only to emphasize the superior merit of the remainder of the book. It is complete, thorough, and as ample for the practitioner as for the student. It abounds in valuable hints and suggestions and we feel certain that it will prove most acceptable in a field which is by no means over-crowded. In its 644 pages it contains 420 illustrations which serve to elucidate the text admirably. The bookmaking is excellent.

STREET CLEANING AND THE DISPOSAL OF A CITY'S WASTES: METHODS AND RESULTS AND THE EFFECT UPON PUBLIC HEALTH, PUBLIC MORALS, AND MUNICIPAL PROSPERITY. By GEO. E. WARING, JR., Commissioner of Street Cleaning in the City of New York. New York: Doubleday & McClure Co., 1898.

THE author of this book of 223 pages has done valuable service to the cause of municipal sanitation. The style of the book is straightforward and direct. It contains a brief but comprehensive account of the history, organization, and work of the Street Cleaning Department

of the City of New York. He discusses the difficulties surrounding the position of Commissioner of Street Cleaning and presents clearly and strongly the political toils in which every member of the force finds himself involved when politics is the controlling power. The latter half of the book presents a most interesting and instructive account of street cleaning in the large cities of Europe and Great Britain. Members of Boards of Health will find in this volume many valuable hints and suggestions connected with the sanitation of municipalities. Of especial interest is the detailed account of the most approved method of the disposition of city garbage.

NOTES ON MILITARY HYGIENE. For Officers of the Line. A Syllabus of Lectures formerly delivered at the U. S. Infantry and Cavalry School. By ALFRED A. WOODHULL, LL.D. (Princ.), Lieut.-Colonel, Medical Department United States Army. New York: John Wiley & Sons, 1898.

SPECIAL interest attaches to the subject of military medicine and its many subdivisions at the present time. The little volume under consideration, originally prepared for the use of student officers, has been amplified and improved, the text being changed to correspond with the present army regulations, and with the progress of sanitary science. An essay has been added upon the care of troops in the field, especially in warm climates, which contains a number of particularly timely suggestions.

Under the introductory heading of "Selection of Soldiers," we are given a precise but brief and complete synopsis of the requirements of the recruiting office. Age, proportion of height and weight, chest capacity, effect of drill, and incapacitating deformities are taken up in turn. The rule given for physiologic relation between height and weight to be used as the standard of recruits is: "To and including five feet seven inches, two pounds to the inch, and add seven pounds for every inch above five feet seven inches." This does not appear to be in accord with the rule based upon more recent statistics than those of the War of the Rebellion, as, according to it, we find the maximum height six feet three inches, corresponding to a weight of but 190 pounds, which is certainly below the average. The chapters on military food and clothing, on habitations, and on camp and marches are particularly well written. Altogether this little guide is a valuable contribution to medical literature, and, while it is intended primarily for the use of line officers, cannot fail to be of service to members of the medical staff as well.

ATLAS AND ABSTRACT OF THE DISEASES OF THE LARYNX. By Dr. D. GRÜNWALD, of Munich. Authorized translation from the German. Edited by CHARLES P. GRAYSON, M.D., Lecturer on Laryngology and Rhinology in the University of Pennsylvania. Philadelphia: W. B. Saunders, 1898.

IN the preparation of this laryngologic atlas, the same plan is pursued that was noted in the earlier volume of this series on diseases of the eye. The pictures presented are, at first, variations in normal cases, then alterations of the epiglottis, diseases of the vocal cords, followed by subcordal affections. The different diseases of the ventricular bands are well shown, while seven plates are devoted to pathologic conditions affecting the posterior wall. Diffuse alterations and paralyses are well illustrated, besides which there are numerous microscopic drawings showing the minute structure of the affected tissues. Each picture is accompanied by the data of the case, the previous history of the disease, and the examination of contiguous, as well as of more distant, organs. In this way the physician who has few opportunities of inspecting the larynx in large numbers of cases, and yet wishes to be able to recognize the more important affections, receives valuable training. The method of instruction followed is a clever combination of the didactic and the clinical; the cases are well chosen and the diagnostic analyses concise and accurate.

THERAPEUTIC HINTS.

For Toothache.—

℞	Cocain hydrochlorat.		gr. ii
	Camphoræ } aa		gr. lxxx.
	Chloralis hydrat. }		

Mix, add a few drops of water and triturate until the mixture becomes a clear homogeneous liquid.

Sig. External use. Apply on a bit of absorbent cotton introduced into the dental cavity, renewing the application until the pain ceases.

Benzoate of Mercury in Syphilis.—

℞	Hydrargyri benzoat.		gr. iv
	Sodii chloridi } aa		gr. i
	Cocain hydrochlorat. }		
	Aq. dest.		℥i.

M. Sig. Fifteen to thirty minims administered hypodermically every day for one month.—*Gancher.*

Nutrient Enema in Cancer of the Stomach.—In case of obliteration of the cardiac or pyloric orifice the following is recommended for rectal alimentation:

℞	Yolk of eggs	No. 2
	Dried pepton	℥i–℥v
	Wine	℥iv
	Bouillon	℥viii.

M. Sig. For injection.

For Bronchiectasis.—

℞	Terpinol	*m.* xxx
	Ol. olivæ	℥iss.

M. Div. in caps. No. XX. Sig. One capsule every two hours.—*Rabow.*

For Pertussis.—

℞	Hydrochlorate of phenocol	gr. xviii–℥iss.

M. Div. in chart No. XII. Sig. One powder three times a day.—*Kobert.*

For the Diarrhœa of Chlorosis.—

℞	Zincohemol	gr. lxxx
	Pulvis aromat.	℥ii.

M. Div. in chart No. X. Sig. One powder three times a day.—*Limousin.*